The Defense Science Board
Task Force

On

The Impact of e-Business on DoD Acquisition Processes

Final Report

July 2002

Office of the Under Secretary of Defense
for Acquisition, Technology and Logistics
Washington, DC 20301-3140

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DEFENSE SCIENCE
BOARD

July 31, 2002

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (ACQUISITION TECHNOLOGY & LOGISTICS)

SUBJECT: Defense Science Board Task Force on Impact of e-Business on DoD Acquisition Processes

I am forwarding the final report of the Defense Science Board Task Force on Impact of e-Commerce on DoD Acquisition Processes. This study, chaired by Dr. Michael Frankel and Dr. Ronald Kerber, was established to review the DoD's current implementation status of e-commerce tools and make any appropriate recommendations that enhance this opportunity for cost reduction, capital, and manpower efficiency.

The Task Force has formulated a set of five recommendations based on its findings. These recommendations are believed to be fundamental for introducing e-business concepts, practices, and technologies into the Department that would allow it to achieve an auditable financial system and to save billions of dollars in business costs per year. Furthermore, these recommendations would allow the Department to take advantage of the e-business experiences and technology base the private sector is aggressively developing.

I endorse all the recommendations and propose you review the letter from the Co-Chairs and final report.

William Schneider, Jr.
Chairman

OFFICE OF THE SECRETARY OF DEFENSE
3140 DEFENSE PENTAGON
WASHINGTON, DC 20301-3140

DEFENSE SCIENCE
BOARD

22 July 2002

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Final Report of the Defense Science Board – Task Force on Impact of e-Business on DoD Acquisition Processes

Attached is the final report from the Defense Science Board Task Force on e-business. The Terms of Reference (TOR) for the study requested that the Task Force "review the DoD's current implementation status of e-commerce tools and make any appropriate recommendations that enhance this opportunity for cost reduction, capital and manpower efficiency."

As the Task Force undertook its charge, it decided to address the TOR from two perspectives: from a DoD standpoint, as requested by the study's sponsor, and from a parallel private-sector perspective. This two-step process through the TOR was felt to be critical, given the rapid development and introduction of e-business concepts, practices, and technology into the consumer marketplace and because of the emerging DoD goal of trying to exploit commercial information technologies (IT) and business best practices where and when appropriate. This study approach, which sets the framework and structure of our report, provided the Task Force the information necessary to more fully address its charge from the study sponsor.

Using the TOR as a guide, the Task Force made parallel assessments for both sectors with regard to their perspectives on e-business visions, implementation strategies, and the acquisition strategies used to acquire and deploy new infrastructure. Our findings indicate strong similarities between the needs, goals, and technologies required in both sectors.

However, the approach for meeting e-business goals differs dramatically from one sector to the other. In the private sector, those enterprises that successfully implement e-business transformations adhere to several fundamental concepts: (1) specific, quantified enterprise goals are set for the transformation and progress on attaining them is conscientiously monitored; (2) the Chief Executive Officer (CEO) of the enterprise plays an active and visible role in the transformation process; (3) e-business infrastructure (software and hardware) are used off the shelf with no (or minimal) customization: business practices are transformed (simplified, streamlined, changed) to adhere to those captured in the e-business software applications; (4) the transformation process starts modestly and scales quickly as successes are achieved; (5) operations managers are held accountable for meeting the transformation goals; and (6) progress

and success are openly and actively celebrated—users' efforts to support the transformation are recognized and rewarded.

In the Department of Defense, the implementation of e-business systems has proceeded in a dramatically different manner. For reasons having to do with Department priorities, military service and agency authorities, DoD self-imposed constraints, and the difficulties of motivating and managing enterprise-wide change, the Department finds itself having implemented several major DoD-unique e-business software applications that support the DoD's *past* business practices and procedures. Although these applications started with commercial off-the-shelf systems as their foundation, they have since deviated substantially. Thus, the DoD faces large cost of ownership for these systems and it cannot make effective use of the concept, product, and technology enhancements that are continually being developed in the private sector.

The Task Force has formulated a set of five recommendations based on its findings. These recommendations are believed to be fundamental for introducing e-business concepts, practices, and technologies into the Department that would allow it to achieve an auditable financial system and to save billions of dollars in business costs per year. Furthermore, these recommendations would allow the Department to take advantage of the e-business experiences and technology base the private sector is aggressively developing. These recommendations are discussed in depth in our report, as are the findings that led to their formulation.

We would like to express our sincerest appreciation to the Task Force members and government advisors whose technical and operations insights, hard work, dedication, and passion for helping the Department resulted in the Task Force report. We would also like to thank the briefers who presented their views on the issues the Task Force addressed. We hope that our sponsor finds the information contained in this report useful and that the specific recommendations we have made are actionable.

Sincerely,

Michael S Frankel, Ph.D.
Task Force Co-Chair

Ronald L. Kerber, Ph.D.
Task Force Co-Chair

Attachment:
Report of the Defense Science Board Task Force on Impact of e-Business on DoD Acquisition Processes

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Executive Summary

In the private sector, and for the last three to four decades, the promise of efficiency derived from information technology has been far ahead of actual achieved benefits. Only in the last decade has the automation of business practices led to very significant productivity gains. Although the Internet clearly is a significant contributing technology, this gain is more directly derived from the timely and accurately collection and distribution of all aspects of business information associated with an enterprise's business operations (automating the back office), and from the accurate and timely exchange of information with the enterprise's customers, suppliers, and employees. The real-time, accurate "state-of-the-business" picture that emerges from these processes allows managers to better tailor their companies' value chain to meet their customers' needs. As a result, we have seen enormous productivity gains in businesses that have adopted these new e-business processes, technology, and infrastructure.

The Department of Defense (DoD) spent nearly $320 billion during fiscal year 2001, including nearly $17 billion in information technology. The DoD has been attempting to achieve gains equivalent to those in the private sector by automating many of its business practices. However, progress in the DoD has been much slower than in the private sector. For this reason, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD/AT&L) requested that the Defense Science Board (DSB) convene an e-business task force made up of individuals of both private and public experiences who have had extensive experience in e-business transformation. Over the course of 7 months, the Task Force was able to review many aspects of the DoD's information technology (IT) infrastructure, competencies, and business processes.

The release of the Task Force's report comes at a point when the DoD is under extraordinary pressure to respond to a rapidly changing world state. As Secretary of Defense (SecDef) Donald Rumsfeld has stated, the Department needs to transform the way it does business in order to more efficiently apply its resources building our nation's military capabilities.

The Task Force began its study by assessing the current status of e-business in the private sector. Over the past 7 years, enterprises within the private sector have gained significant benefits by taking advantage of integrated e-business information technologies. Those who have executed these e-business transformations following a few fundamental principles have reaped benefits in increased savings, market share, and customer and employee satisfaction. Those who tried the transformation but chose to ignore the fundamental principles often found themselves worse off than if they had done nothing. Those who did not try at all saw others outstripping them in market competition.

The Task Force believes there are opportunities for efficiency gains (savings) in the DoD that would be similar to the successes observed in the private sector. The Task Force also conservatively estimates that the introduction of e-business practices and technology, with attendant process reengineering, could allow the DoD to shift tens of billions of dollars in business overhead expenses to other uses. These savings are achievable through e-business technologies and processes that have been proven in private enterprise and in some public agency applications. However, the savings can be

achieved only through strong leadership that addresses the following key issues.

First, many self-imposed regulations, and even more importantly, mindsets keep the DoD from realizing this potential. These mindsets have caused the DoD to move from commercial off-the-shelf (COTS) software to government off-the-shelf (GOTS) software to highly customized software for most of its business automation initiatives. This migration is very expensive both in cost and, more importantly, in missed opportunities. The consequences of these missed opportunities will only grow more severe because new upgrades in COTS applications cannot be easily implemented in the highly customized DoD applications. In fact, by the time a typical DoD application becomes operational, it is several generations behind its commercial analog.

Secondly, success in the private sector is driven by successful process and enterprise culture change. (E-business applications software is only an enabler.) Successful private-sector e-business implementations are the products of leadership, resources, and time devoted to embedding the organization's vision, goals, and objectives into the basic fabric of the enterprise. The outcome of this culture change leads to significant changes in the enterprise's business processes. These changes then result in the desired operational productivity. In general, the DoD has not allowed these substantial change management processes to occur within the Department when new business software is introduced. The Department approach has primarily been to automate existing business practices and preferences.

If the DoD is to benefit from an e-business transformation, it must change its existing practices. In the near past, e-business functional area proponents, the Armed Services, and many agencies have individually attempted to automate their existing business practices. This approach resulted in no common overall vision, goals, and objectives for technology, and no common infrastructure and key business processes. As an example, there were 76 different DoD contract-writing systems in 1992, and 10 years later the DoD is still only halfway to a unified system. Could Wal-Mart operate if each store manager could choose to opt out of a key e-business IT project and pave the parking lot instead?

Meaningful change in the existing practices in the DoD will not take place without an enterprise-wide vision and strategy clearly articulated by the SecDef. Just as important, an implementation plan that sets specific goals is required to ensure success and the achievement of goals and to motivate compliance. To achieve the desired end state, and based on its findings, the Task Force makes the following recommendations:

- The SecDef should establish a clear, concise vision for e-business and set clear, attainable, and quantified goals for the enterprise (the DoD). Progress toward these goals must be monitored monthly, with deviations explained and corrected.
- The SecDef should appoint a Senior Executive who reports to the SecDef and has the day-to-day responsibility and authority for developing and implementing the vision and ultimately achieving the DoD-wide goals.
- The Senior Executive must be made responsible for resolving conflicting projects, ensuring consistency, and holding departments and people accountable for results. The

Senior Executive should delegate complementary goals to the service secretaries and agency heads and should hold them accountable for achieving those goals.

- The Senior Executive should immediately conduct a review of all major DoD e-business systems under procurement or to be procured, in order to stop any project that is not adopting COTS-based applications that embody the best practices in e-business processes and technologies. The Senior Executive must establish processes to change the DoD culture of "apparent compliance" to one of actually using COTS technologies. Exceptions must be approved by the SecDef.
- The Senior Executive should establish change management teams for each e-business system deployed to users to ensure that a new level of performance is achieved and, more importantly, can be maintained. Change management must become a permanent fixture within the DoD. Acceptance of and progress toward reaching the enterprise's goals must be prioritized and rewarded.

The Task Force believes that if the DoD does not employ these fundamental principles for transforming itself to an e-business-empowered enterprise, fiscal resources will continue to be suboptimally used.

Should the recommendations be accepted, the Task Force believes that in the upcoming decade the DoD can achieve tens of billions in dollar savings for the country while improving the effectiveness of the >$350 billion per annum expenditure of defense dollars.

Report Outline

- Terms of Reference
  - E-business Definition
    - Participants
      - Meeting Schedule
        - Private-Sector Findings
          - DoD Findings
            - Conclusion
              - Recommendations

The Task Force decided to address the study's terms of reference (TOR) from two perspectives, as noted in Figure 1: from a DoD perspective, as requested by the study's sponsors, and from a parallel private-sector perspective. This two-step process through the TOR was felt to be critical, given the rapid development and introduction of e-business concepts and technology into the consumer marketplace, and because of the emerging DoD goal of trying to exploit commercial information technologies (ITs) and business best practices where and when appropriate. This study structure, which forms the basis of this report, provided the Task Force the information necessary to more fully address its charge from the study's sponsor, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD/AT&L).

Consequently, this report is structured as indicated in Figure 1. It first addresses findings from a private-sector perspective on e-business vision, implementation strategies, and the acquisition strategies used to acquire and deploy new infrastructure. The report then addresses these same issues from a DoD perspective. Next, the report contrasts the two sectors' approaches to introducing e-business into their respective business practices. The Task Force then concludes its report with recommendations, based on this analysis, of approaches the DoD can use to achieve maximum benefits from introducing e-business practices and technologies into its activities.

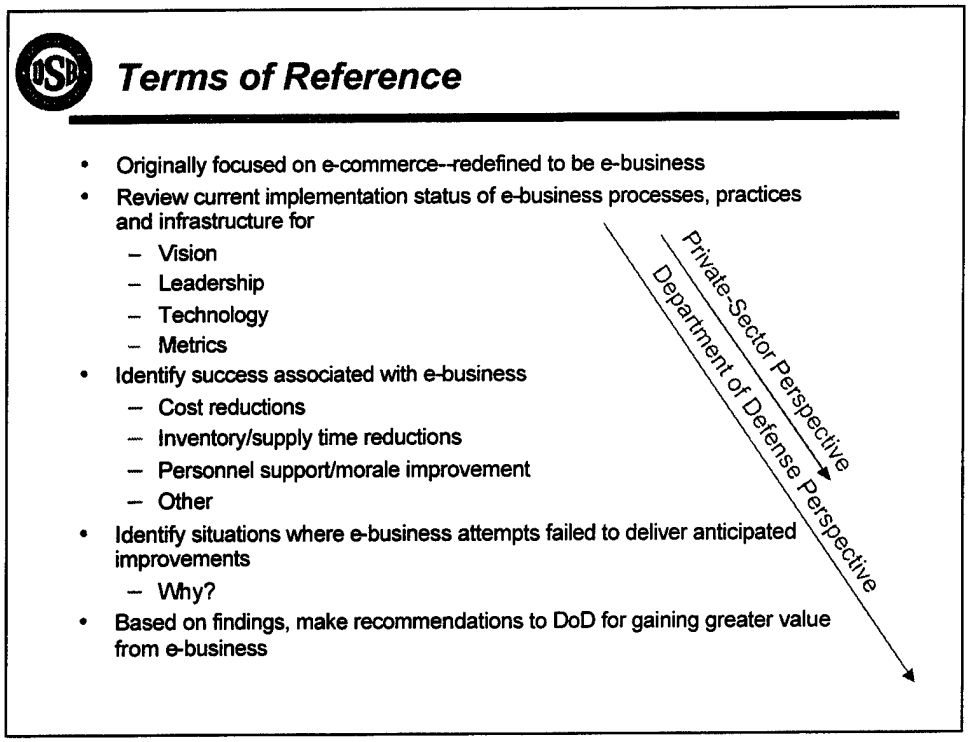

Figure 1. Terms of Reference

Thus, the structure of the report and the manner in which the Task Force proceeded to acquire information was in direct support of and guided by the TOR set for the study. For each element of the TOR, synopsized in Figure 1 and provided in its entirety in Annex A, the panel took in-depth briefings from representatives of numerous DoD and private-sector organizations. Task Force discussions about the briefings and the resulting findings related to the material presented were captured in meeting minutes, and the briefings themselves were compiled into on-line and hard-copy libraries for Task Force use during its deliberations and recommendation formulation.

Participants

SPONSOR: *Honorable Mr. Jacques Gansler, USD/AT&L*

Task Force Members

Dr. Ronald Kerber (Co-Chair)
Dr. Michael Frankel (Co-Chair)

Dr. William Howard
Dr. Dan McNicholl
Mr. Ken Medlin
BG Jack Pellicci, USA (Ret.)
Mr. Bill Roberts
Lt. GEN Dave Teal, USAF (Ret.)
Mr. Ken Thompson

Executive Secretary
COL Lyndi Balven
Government Advisors
LTC Dan Adams - USA
Ms. Kim Cain - DAF EB/EC Division
Mr. Paul Grant – DoD/D/CIO
Mrs. Debbie Streufert - ASN (RDA/ABM)
DSB Secretariat Representative
Mr. Bob Jamison
LTC Carla Kendrick
Contractor Support
Mr. Matthew Amitrano
Mr. Richard Balzano
Ms. Allison Troutman

- Government advisors specifically selected to ensure:
  - Views from stakeholder DoD organizations carefully considered in study
  - Deliberations of panel promulgated through parent organizations

Figure 2. Participants

The Task Force membership (Figure 2) included e-business experts from government and the private sector. As the biographical sketches in Annex B indicate, these individuals collectively have extensive experience in e-business technology, development, deployment, and use. The members' experience also included senior positions within DoD with responsibility for business practices associated with acquisition, personnel, and operations; senior positions in e-business consulting and system development companies in the private sector; individuals with extensive legal backgrounds in DoD business practices; and individuals who had been involved in several Defense Science Board (DSB) studies that looked deeply into critical aspects of the DoD's business practices—specifically, logistics. The individuals with this breadth and depth of expertise were carefully selected to ensure that all aspects of the TOR could be adequately addressed.

The Task Force Executive Secretary was Col. Lyndi Balven, from the Office of the Secretary of Defense for Acquisition, Technology and Logistics (OSD/AT&L). Col. Balven helped identify briefings the Task Force should hear and provided feedback to and from one of the study's sponsors. Government advisors included representatives from the Armed Services and USD/AT&L. Several of these individuals took an active role in helping the Task Force gain access to important briefings; they helped bring to the study ideas and issues from their respective organizations; and they carried to their organization the findings and preliminary recommendations of the panel to their organizations for comment.

Finally, the team was supported by three individuals provided under contract to the DSB. These individuals were responsible for agenda setting, meeting logistics, and general administrative support to the Task Force. Their assistance was critical to the efficient and effective conduct of the study, for

which assistance the Task Force is immensely grateful.

Meeting Schedule/Review Topics

2001	Subject
February	Teleconferences to select TF membership, meeting dates, and agenda for March
March 27	Overview of DoD e-business (EB) activities
May 1–2	Continued DoD review, private-sector e-business review
June 5–6	DoD use of COTS EB technology, system integration
June 26–27	Functional and Service perspective
July 24–25	Recommendations formulation
September 11	Report preparation
October 2–3	Report preparation
October 23	Report preparation

Figure 3. Meeting Schedule

The meeting schedule the Task Force set for itself is shown in Figure 3. As noted earlier, for each 2-day meeting a specific topic in the TOR was addressed. For each topic, the team members identified a series of briefings they wished to hear, and the Executive Secretary and support team scheduled the speakers. During each meeting, Task Force discussion was also scheduled in order to permit debate and ultimately consensus on findings and recommendations. The agendas for each meeting, provided in Annex C, brought individuals from many DoD and private-sector organizations to the Task Force. In total, 29 briefings, from a similar number of organizational entities, were received. This material, the Task Force members' background and expertise, and the many discussions that ensued led to the findings and recommendations that follow.

E-Business Definition

E-business includes all processes, internal and external, to an organization that can be accomplished and supported through the automation and internetworking of its business databases and transactions such that the speed, accuracy, and visibility of the total business performance is significantly enhanced.

Figure 4. Definition

As the Task Force began its study, it became evident that a definition of the fundamental issue it was investigating was necessary. The original TOR for the study suggested that the panel address e-commerce issues within the Department. However, in early discussions with our sponsors to clarify the intent of the study, it became evident that the effort was intended to address a broader set of issues associated with e-business. In these early discussions the distinction between the two was established: e-commerce focuses on financial activities and transactions associated with an organization and its business partners, while e-business includes those activities as well as those associated with inventory, asset management, and people within the organization, e.g., processes such as human resources, benefits, and payroll. Consequently, at the Task Force's first meeting we broadened our charter to address e-business within the DoD. We also decided that it was necessary to define e-business so that it, the sponsor, and the DoD would have a common conceptual framework for the subject matter of this study. At the time when this definition was developed, the Department was in the early stages of developing its own definition of e-business. Throughout the study, concepts and viewpoints on the definition were shared. The final version of the Task Force's definition for e-business is given in Figure 4.

What Could Be – A Vision for DoD

- A comprehensive automation of DoD business systems would permit:
  - Highly improved performance in:
    - Timely management and financial reporting
    - Logistics accuracy and timeliness
    - Support of personnel needs
    - Operational readiness and support
  - Cost savings of 10's of $B's in the following areas:
    - Back office support
    - Inventory (including obsolescence)
    - Procurement
    - Travel
    - Logistics

Figure 5. A DoD Vision

In addition to establishing an e-business definition for the study, the Task Force devoted part of its first meeting to establishing a vision of what might be if DoD could effectively implement e-business practices, technology, and infrastructure and cause the attendant culture shift with the Department to occur. Based on their experiences in the private and public sectors, the Task Force members believed that significant improvements to DoD business practices should be possible. These improvements included a significant reduction in the time associated with the management of business transactions, accurate and timely financial reporting, reductions in inventory holdings and cycle time, improved responsiveness, and support to Department personnel needs—all resulting in significant improvement in the operational readiness of our military forces.

The benefit to our forces would derive from more timely and less costly combat support, more resources available for training, and additional resources being made available for military system improvements, upgrades, and acquisition. These additional resources would be obtained through significant (tens of billions of dollars) reductions in the costs incurred today in maintaining infrastructure; back-office business processes and systems; obsolete inventories; costly and time-inefficient procurement practices and systems; duplicative and inefficient personnel travel systems; and a large, complex logistic infrastructure (post, camp, and station as well as in the field).

As the study progressed, the Task Force vetted this vision. We became convinced that the Department has an opportunity to achieve the benefits of this vision. In fact, over the past decade the Department had started several initiatives that could have contributed to realizing elements of this vision;

more recently, a DoD-wide focus on bringing e-business practices and technologies in to the Department has begun and is underway.

The Task Force however, feels that more can and should be done if the full benefits of the vision it proposes are to be realized. The rationale for this vision and how to achieve it are captured in the report that follows.

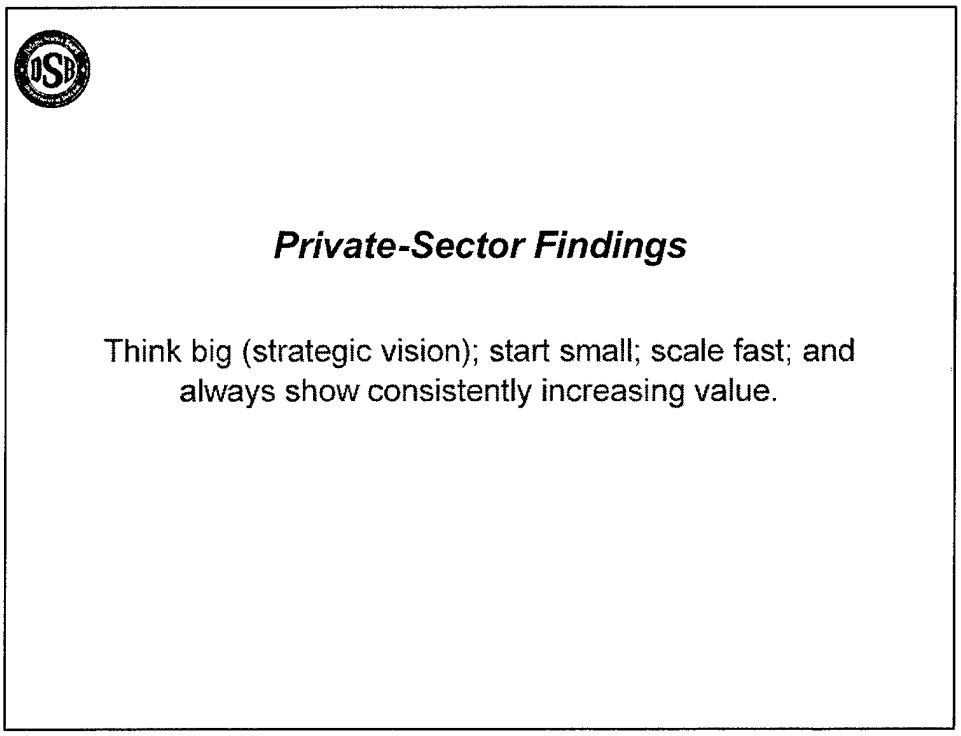

Figure 6. Private Sector Findings

From the private-sector presentations the Task Force noted several consistent messages regarding the successful introduction of e-business practices, technology, and infrastructure into an organization. The most fundamental message was that a strategic vision must be set that specifies the benefits to be derived from introducing e-business; that pilot initiatives be undertaken to understand, explore, and demonstrate the benefits of implementing various processes and technologies; and that the successful pilot initiatives be scaled rapidly to ensure that the resulting benefits accrue organization wide.

The enterprise vision must be led by the CEO. The implementation of this vision begins with pilot or prototype projects, which gain customer and user support in about 3 months. Scaling the successful pilot or prototype projects to the enterprise very quickly is essential, as is terminating those projects that are not effective or embraced by customers and users.

Findings: Private Sector - Approach

- Start with a strategic agenda and develop a well articulated vision of expected benefits and specific metrics
  - Capture industry leadership position
    - Increase market share by XXX%
  - Attract new market segment
    - Increase customer base by XX%
  - Gain customer loyalty and channel preference
    - Provide online customer support 24/7
    - Provide easy access to new product information
  - Make doing business easier and more efficient
    - Reduce back office costs by $XXX
    - Reduce order fulfillment time by factor of X
    - Reduce inventory by XX%
  - Reduce procurements costs by $XXX

Figure 7. Findings: Private Sector – Approach

A second fundamental message to the Task Force was that quantified, specific metrics must be set by which to measure progress toward achieving the vision. Figure 7 provides generalized examples of such metrics that have been successfully used in the private sector.

Specific examples of e-business practices and technology that have been used to achieve an organization's strategic vision for implementing e-business include the following.

Huntington Bancshares, a Columbus, Ohio-based bank-holding company, is using information technology to become more competitive. The company is using customer relationship management tools and financial services applications to streamline profitability analysis in more than 500 Huntington branch offices nationwide.

The Bank of Montreal is a highly diversified financial-services institution that operates more than 30 lines of businesses. The company is reengineering their processes for purchasing $1.9 billion (Canadian) of goods and services each year, using online procurement services. Using a standard Web browser, bank employees can access electronic catalogs to quickly procure items within the bank's established business rules and pricing.

At Best Buy, the company uses information to directly manage its own business operations. Best Buy credits data warehousing with contributing to its high inventory turn rate of 7, up in the last year from 4.6 three years ago. Best Buy recognizes data as a corporate asset and manages it accordingly. Sales from more than 500 stores are uploaded every night to the 3.3 terabyte data warehouse, and by the next morning a complete picture of the entire company's sales is available to managers.

Level 3 Communications, a global broadband infrastructure company, developed an e-business implementation spanning 14 countries and using just one integrated software system. An enterprise system combining Financials, Human Resource Management, Payroll, and Financial Compensation has resulted in a cost savings of 50 percent. An example of the system's efficiency is the way information about new employees is initially processed. This information is entered and stored ONLY ONCE; the information automatically flows from the human resource system to payroll, purchasing, and other applications that use the information. Level 3 has avoided redundant, time-consuming, and unproductive processes to create a solid back-office foundation.

ON Semi-Conductor, a global supplier of broadband, power management, and integrated circuits, has seen a 28-point improvement in delivery time and a $20 million annualized cost savings by utilizing business intelligence tools and data warehousing. ON Semi-Conductor works with the sales organization to capture its sales forecast information; the data warehouse system shows the sales organization that forecast information against actual business performance, and the salespeople use that analysis to drive the decision-making process. The organization also works with internal planners to ensure that the data warehouse provides information for capacity planning so that ON Semi-Conductor can respond effectively to changing business conditions.

Findings: Private Sector—Approach

- CEO must give all line managers responsibility and authority to implement e-business strategy
  - Designated by and supported by enterprise CEO
  - CEO sells the vision and associated "change"
  - Designates line managers as leaders
- CEO must assign CIO responsibility and authority to
  - Identify opportunities and areas of risk
  - Develop implementation support plan
  - Control IT resources and schedules for realization of plan
  - Have final decision for deployment issues associated with the introduction of e-business technology
  - Provide needed oversight, IT conflict resolution, e-business training
  - Ensure that enterprise has appropriate infrastructure
- CEO must hold each manager accountable for meeting assigned objectives

Figure 8. Findings: Private Sector Approach—CEO Responsibilities

A third fundamental principle was that the organization's CEO must take and maintain an active role in implementing e-business in an organization. The CEO must communicate the e-business vision to all members of the organization, then delegate responsibility and authority to the operations unit managers to implement e-business strategies and realize the quantified goals the CEO sets for them.

However, the operations managers are not given the responsibility of selecting and implementing e-business information technologies (processing systems, software applications, or telecommunications infrastructure). In order to achieve enterprise-wide consistent e-business information, real-time cross-unit information flow, and a consistent look-and-feel to e-business system users within and outside the organization, the enterprise's chief information officer (CIO) is given the responsibility and resources to introduce the e-business infrastructure. The authority accorded the CIO is noted in Figure 8. Key points are that the CIO must have final decision authority for e-business IT selection and deployment issues, and that the CIO must ensure that the appropriate infrastructure (computers, telecommunications, and applications) are in place and operational, in order to ensure a smooth introduction of new business processes and systems to the organization.

Two specific examples of successful use of this third fundamental principle follow.

At General Electric, the CEO, Jack Welch, was convinced that in order to survive, GE had to become an e-business. He formed a high-level team of ~ 100 key leaders across GE's major lines of business, then gave them his vision and 30 days to come back with a plan. The plan was presented to the CEOs of three major lines of business: GE Power Systems (GEPS), GE Aircraft Engines, and GE

Finance. From this a strategy that supported Welch's vision was developed, goals set, and metrics instituted to put GE on a fast track to implement e-business processes. Welch delegated responsibility and authority to his business line CEOs to meet the agreed-upon goals and financial objectives. Welch sold the vision and provided incentives for the businesses to change in order to meet the demands of a new competitive environment and capture the e-business opportunity.

John Rice, the CEO of the GEPS group (a $20+ billion enterprise), personally led the GEPS e-business initiative. His driving principles were operations, not IT leads; IT support for implementation by working with an outside strategic e-business partner; the creation of fewer high-quality jobs; and a focus on delivering benefits to customers and shareholders. In FY 2001, GEPS cut operating costs by $494 million and delivered more power units than projected. Sales were up 35%, while net head count was up only 8%. The CEO emphasized speed, no customization, and simplicity in developing e-business applications.

Findings: Private Sector—Approach

- Reduce complexity at all opportunities
  - Adapt best practices codified in commercial e-business software
  - Optimize business processes and reduce workflow cycles
  - Provide easy, reliable access to consolidated business information
  - Adapt standards for information storage, retrieval and distribution
  - Don't invent, use
- Align organizational and individual incentives with enterprise objectives
  - Share benefits with those creating them
  - Recognize and reward results

Figure 9. Findings: Private Sector Approach—Reduce Complexity

A true e-business is one that has integrated and streamlined both its internal and external processes in order to improve efficiencies, lower costs, and increase competitiveness. With e-business, companies implement self-service applications both internally and externally. By changing its businesses processes, one publicly held company saved over $200 million annually.

In order to really take advantage of technology, effective e-business organizations often have structures significantly different from those of traditional businesses. These businesses take advantage of efficiencies created by Internet technologies, they manufacture their products based on demand, and restructure their lines of businesses.

A study by the Wharton School, University of Pennsylvania, found that those organizations that successfully leveraged their IT dollars were the companies that had effective and efficient business processes. These processes include culture changes as well as rethinking and restructuring every facet of the organization's business practices.

Oracle saved $1.5 billion by changing its business structure. At a time when revenue increased by almost $2 billion, the company was able to reduce its headcount from 44,000 to 41,000 employees. The reduction in manpower was a small portion of the savings, since the real savings came through the reshaping of its global and administrative structures to enable a more efficient way of doing business at significantly lower cost. One result of the flattened organizational structure that emerged in the last decade is that more people in the organization are decision makers. Thus it is imperative that easy-to-use but powerful business intelligence tools be accessible from anywhere over the Web.

ON Semi-Conductor uses its business intelligence and data warehousing tools to ensure that all

employees are empowered with the right information, accessible from anywhere, and at the right time, to facilitate the right decision.

Wells Fargo says its data warehouse operation is the "information hub that collects all of the data from the various operational organizations and provides a SINGLE VERSION of the truth."

Although the phone will remain the predominant channel between companies and customers, the companies that institute the Global 2500 expect a shift from traditional call centers to Web-based contact centers; 36% of the companies cited increased customer satisfaction and retention as their reason for implementing a Web-based contact center; and 31% cited increased operating efficiency. Furthermore, customer contacts via the Web doubled from less than 10% in 2000 to over 20% in 2002. As a result, 70% of the Global 2500 companies said a Web-based contact center strategy was critical to the success of their company.

Many large organizations such as Pitney Bowes Office Systems and British Telecommunications are using an end-to-end integrated solution to automate their business practices on the Internet. E-business software suites leverage Internet business practices that allow companies to put their customer interactions, internal operations, and supply chain on line. These business practices have emerged as the key to e-business success, enabling companies to expand markets, retain customers, and increase operational efficiencies.

The last fundamental principle for the successful introduction of e-business practices into an organization, drawn from these examples, is captured in Figure 9: (1) reduce complexity and (2) align organizational and individual incentives with the organization's e-business objectives. To reduce complexity, organizations are adopting the best-of-breed business practices codified in the e-business software suites they procure. In order to do so, these organizations undertake business process reengineering to fit their basic business functions to those supported in the software. By doing so, these organizations benefit from the successful business practices developed and field proven by others, and they benefit from the continuous improvements in the practices captured in updated versions of the software. Not only are field-proven improvements easily acquired but cost of ownership for the e-business software suite is also greatly reduced. No custom software must be developed and continuously maintained as updated versions of the e-business suite are released. Furthermore, the obsolescence of either custom software or the enterprise's software is avoided.

Finally, to successfully introduce e-business practices, software suites, and infrastructure, it is imperative that everyone in the organization be recognized and rewarded as the transformation occurs and the e-business vision and goals are achieved. In all cases presented to the Task Force, the point was made that the organizational transformation does require that the process be carefully managed in order to facilitate the concomitant culture shift. Such culture changes are difficult for people—they need to be rewarded and acknowledged during the shift to new ways of doing business. By recognizing the efforts of its people, the organization more rapidly and effectively achieves the transition to and reaps the benefits of introducing e-business practices and infrastructure.

Findings: Private Sector—Successes

- Actual Case histories:
  - Enterprise 1: Manufacturing company
    - Dealer margins improved by 1–2% by reducing inventory
    - Call volume reduced by 60%
    - Order cycle time to be reduced from 5 days to 18 hours
    - Achieved order visibility across supply chain, entry through fulfillment
    - Real-time information on products and pricing
  - Enterprise 2: Financial Industry Company
    - Company acquired 25,000 new customers with $780 million in assets in the first 9 months of operation, and 100,000 customers within a year
    - Within 9 months, the company was ranked number three out of 12 in customer satisfaction in a new market

Figure 10. Findings: Private Sector—Successes

When these fundamental principles for introducing e-business practices into an organization are applied, significant and rapid benefits are achieved. Figure 10 provides additional examples to those already noted (the specific names of enterprises are not included for client-private reasons). As all these organizations found, there are significant incentives to migrate to an e-business methodology. Chief among these incentives are balanced books, and timely and accurate financial reporting. Procurement costs can be reduced by 15–30%, and inventory turnover rates, as cited earlier, can show dramatic improvement, reducing inventory costs by 30–50%.

IBM estimates that for every 1% increase in customer satisfaction, $247 million is added to revenue. Self-service operations produce significant reductions in costs as well as improved customer satisfaction.

Other specific examples of companies benefiting from e-business are the following.

Wells Fargo needs only 20 employees in its Business Modeling Group, to handle over 6 terabytes of information gathered from over 6,000 separate business locations.

ON Semi-Conductor, as mentioned earlier, became a leaner, more responsive organization by using its customer resource management tools. This year the organization introduced 422 new products, and its customers gave the company 15 awards for exemplary customer service.

Findings: Private Sector—Failures

- Causes of failure
  - No CEO commitment/vision/goal
  - No clear hard, quantified metrics
  - No senior person in charge of implementation
  - Implemented custom e-business infrastructure
  - Did not plan for and manage culture change
  - Did not plan for and manage business process change
  - Did not train, then deploy, then train, then deploy....
  - Did not provide incentives
  - Did not remove disincentives and barriers
  - Did not hold operational leadership accountable
  - Set ad hoc objectives without coordination

Figure 11. Findings: Private Sector—Failures

However, not all organizations have been successful in introducing e-business practices and technology into their operations. In fact, the cost of the failure in such undertakings has been enormous, resulting in significant loss of capital as well as loss of organizational focus, market share, and client satisfaction. From the presentations to the Task Force, several consistent issues were identified that were the root cause for the failures; these causes of failure are noted in Figure 11.

Key among the causes was lack of CEO commitment, vision, and specific goals for the organization's transition to e-business practices. Without the participation of the business leadership of the organization, starting with the CEO, setting the vision and the business goals of implementing e-business processes the transition is doomed to failure. A senior business leader must be designated to oversee and be accountable for the implementation of new business processes, new organizational forms, and new products and services. Implementing e-business practices is not an IT activity; it is a business improvement process and must be managed as such. E-business processes can create enormous value: various estimates suggest it contributes about 1% to aggregate productivity growth, but success is almost never realized unless the process is driven by the goals of the business and the associated metrics. Committed CEOs must align e-business technology and infrastructure with the business objectives, and stress them as enablers to achieve real value to the organization. Most successful e-business investments combine investments in IT with investments in the organization. Organizational investments are large and involve a difficult process of organizational culture and process change.

A second key issue that can lead to failure is the introduction and customization of e-business

technologies (specifically software suites) to support existing business practices within an organization. An enterprise that uses such an approach does not benefit from the "best practices" embodied in the software; best practices must be honed as lessons are learned, and then incorporated into succeeding versions of the software. Furthermore, the customization of e-business software results in disproportionately large ownership costs. Every time an upgrade of the core software is released, the significant cost of reintegrating the software into the organization's customized system results in enormous maintenance costs. It is not atypical that the process of customization results in hundreds of millions of dollars in overruns in e-business implementation projects, significant delays in introducing the system, and very minimal realization of the benefits that could have been derived. In addition, ownership costs, once the customized software has been deployed, are 10 to 100 times those that would have been incurred for off-the-shelf software upgrade licenses.

Figure 11 summarizes other key factors that result in the failure of efforts to introduce e-business practices and technology into an organization. Unfortunately, many organizations rediscover these factors in the process. For those that experience these factors, the cost of failure is large, but those organizations that adhere to the key factors for success reap great benefits, as shown by the examples presented.

DoD Findings

Findings: DoD—Overview

- *Substantial and varied "direction"* related to e-business implementation
  - From Presidential Memoranda to Public Law (1990-2000)
    - Chief Financial Officer's Act 1990
    - President's Memorandum of October 1993
    - Federal Acquisition Streamlining Act of 1994
    - Federal Acquisition Reform Act of 1995
    - IT Management Reform Act of 1995
    - Federal Financial Management Improvement Act 1996
    - Debt Collection Improvement Act of 1996
    - President's Memorandum of July 1997
    - EC in Federal Procurement Act of 1998 (Sec 850)
    - DoD E-Mall System for Supply Purchases (Sec 332)
    - Electronic Signatures in Global and National Commerce Act ("E-SIGN") (Public Law 106-229)
    - OMB Procedures and Guidance for Implementing the Government Paperwork Elimination Act (GPEA), dated April 25, 2000
- Prior DoD enthusiasm attributable to *single individual* (DepSecDef), who set an *enterprise priority* and *drove* a transformation *process*

Figure 12. Findings: DoD—Overview

During the last decade, numerous directives within the Federal Government and DoD have addressed various aspects of implementing e-business practices. The motivating factors for these directives have been as varied as the directives themselves, ranging from the mandate that each department or agency be able to balance its financial books, to the introduction of e-commerce automation for the purpose of reducing e-commerce costs, allowing for more effective use of capital resources.

It is important to note that although all of these directives or initiatives were well intended in their own right, their breadth, disparity, and conflicting motivation tend to confuse the people within DoD. Furthermore, hardly any of the directives start with the basic foundation principles noted for the introduction of e-business into the private sector—the goal of achieving an overall quantified benefit to an organization through the reengineering of an organization's basic e-business practices. Consequently, the implementation of the conflicting directives has been interpreted more as automation of existing DoD business practices in each subentity within the Department.

That is not to say that progress has not been and is being made in automating e-business activities within the DoD. In fact, progress over the past several years came about through the leadership, vision, and persistence of Dr. John Hamre, the former Deputy Secretary of Defense. This individual drove a process to introduce change—however, this change was interpreted by the Department as the automation of existing practices and preferences. Although progress was made, the majority of the benefits of introducing e-business practices and technologies into the Department remain to be realized.

Findings: DoD—Overview (cont.)

- Benefits of e-business not well understood throughout the department
  - Potential value intuitively accepted by DoD civilian senior leadership
  - Little priority by the uniformed leadership
- No clear delegated DoD-wide authority for e-business to drive
  - Vision
  - Culture change
  - Business units and functions
- A large, complex oversight structure
  - Department of Defense CIO
    - CIO Leadership
    - EB Board of Directors
    - Policy Establishment in DoD Directive 8190.2
    - EB/EC Strategic Plan
  - Office of the Secretary of Defense (OSD) PSA
    - Functional Plans / Operational Architectures
  - DoD e-business Program Office
    - Implementation of Common Services
  - Military Departments and Defense Agencies
    - Execution and Process Change
  - EC Resource Centers (ECRC)(Closed in '01)

Recent memos assign accountability to OSD Comptroller

Figure 13. Findings: DoD—Overview (cont.)

The difficulties in realizing the full benefits of introducing e-business into the DoD stand in clear juxtaposition to the key fundamental tenants for success noted in the private-sector findings section of this report. Specifically, the benefits—as articulated through a clear vision and goals, are not appreciated by the two major constituencies in the Department. To a great extent, most senior DoD civilian leaders accept the potential benefits of introducing e-business processes and technologies into the Department. However, the senior uniformed leaders, having only experienced the way DoD has practiced business in the past, place little priority on accepting the organizational challenges and the risk associated with changing their respective units' business practices. They see little correlation between force readiness and future military operations, and the e-business concepts discussed herein.

Furthermore, until just recently (during this study) no clearly identified individual within DoD had responsibility and commensurate authority to drive the e-business transformation process.

On 19 July 2001, the Secretary of Defense directed that the Under Secretary of Defense Comptroller (USD/C) in coordination with the Under Secretary of Defense for Acquisition, Technology and Logistics, provide policy direction oversight for the execution of all Financial Management Modernization Program efforts. USD/C subsequently (October 2001) issued memoranda that set policy for the new program (see Annex D).

There remain, however, critically important issues to resolve if the Financial Management Modernization Program is to prove effective. First, the complex management and oversight structure that has been established (Figure 13) in response to prior directives (Figure 12) must be disestablished.

A much flatter, simpler, streamlined structure is necessary. In fact, as noted by DoD briefers to the Task Force, the existing structure causes confusion as to who is in charge, where to go for issue resolution, and how to resolve "turf" struggles in ongoing activities.

Furthermore, the benefits of e-business are only partially represented by financial systems; all of the other elements mentioned heretofore—including process, organization, and people—are critical to the potential improvement. Because of the complexity of the undertaking in DoD, there is still no designated individual with sufficient authority to handle the many day-to-day issues that need immediate resolution if the program is to be successful. In this instance, "authority" means the ability to make decisions on behalf of the entire Department.

Findings: DoD—Overview (cont.)

- *No DoD*-wide e-business *vision* developed that:
  - Establishes e-business benefits as a fundamental goal within the DoD
  - Is accepted by military operational entities, all functional entities, ahd military operational support functions
  - Sets investment priorities for e-business systems and infrastructure
- *No enforced policy* or governance to implement common, *commercial-based applications*
  - Limits DoD ability to realize e-business benefits
  - Results in costly, DoD proprietary systems
- *No common infrastructure* to support evolving enterprise e-business users
  - Many disparate e-business systems and applications within and across functional areas
  - Lack of consolidated backroom IT infrastructure
  - Last mile (post, camp, and station) infrastructure inadequate

Figure 14. Findings: DoD—Overview

In addition to the complexity of managing the introduction of e-business practices into the Department, there remains the need to establish a clear vision of why the Department should embrace such an all-encompassing undertaking and what benefits (quantified goals) will accrue to the organization as a whole. The Secretary of Defense began to set the stage for such a vision with his speech of 10 September 2001 opening the DoD Acquisition and Logistics Excellence Week (see Annex E). The concepts embodied in this speech are directly in line with the issue of needing to establish a DoD vision. However, the momentum that this speech should have generated was thwarted by the catastrophic and tragic events of 11 September 2001. A DoD
e-business vision remains to be established.

Similarly, until the memorandum by USD/C (Annex D), there was no specific policy or governance to ensure that the DoD leverage commercial best practices e-business concepts and technology. Although the new policy set forth by USD/C attempts to rectify this situation, there is still confusion about using unmodified (or minimally modified) e-business software within the Department. Interestingly, the Task Force heard many diverse and conflicting definitions of commercial off-the-shelf software from DoD briefers. In virtually all business automation projects underway within DoD, as discussed later in this report, COTS software is being significantly modified, resulting in project cost overruns and monumental maintenance costs—symptoms experienced by private-sector organizations pursuing similar strategies.

Finally, in contrast to private sector e-business undertakings, where the CIO is the single entity

responsible for deploying appropriate infrastructure to support the e-business transformation, the DoD infrastructure is bought, owned, and operated by many independent agencies and entities. Specifically, the last mile-IT infrastructure (post, camp, and station) is owned and operated by base commanders who set investment priorities for IT as well as other competing needs. For this one segment of the total population of the Department, the infrastructure has been inadequate to support the rollout of the many business automation initiatives undertaken by the Department in response to the directives noted in Figure 12. Thus,.the deployment of the resulting systems has caused frustration, dissatisfaction and disbelief by the very people—the users—who must embrace the e-business technology and practices if the Department initiatives are to be successful.

Findings: DoD—Overview (Concluded)

- *Implementing* an integrated DoD e-business vision, infrastructure, process and policy *is difficult*
  - *Many* DoD *functional areas:*
    - Logistics
    - Transportation
    - Personnel
    - Finance
    - Contracting
    - Travel
    - Acquisition
    - Medical
  - *Military services* "own" components and resources of the e-business infrastructure
  - *Many interfaces* to other government agencies and the private sector
  - Many *self-imposed constraints*
  - Many *uncoordinated* new *initiatives*
  - Goals *not* quantified

However...

Figure 15. Findings: DoD—Overview Concluded

The Task Force noted that the complexity of DoD as an organization and the many regulations and laws under which it operates makes the enterprise-wide deployment of e-business practices and infrastructure very complicated. In addition to the many large functional area communities noted in Figure 15, the military services impose another level of complexity on the undertaking. Although the functional areas represent a business view of the enterprise, the components and communities associated with each area reside within and hold strong unit loyalties to the Service to which they belong. These loyalties were evident not only from the briefers but also from the discussions between the Task Force and its Service and Department representatives.

Furthermore, the DoD exists within a larger community; thus, its e-business systems and infrastructure must interoperate with those deployed by other government agencies and with the private-sector vendors and contractors that support the DoD.

Additional complexity is also introduced by self-imposed business regulations and practices. The government regulations under which business is practiced are embodied in the Federal Acquisition Regulations (FAR) and JFIMS. The Department supplements these standards through the Defense Federal Acquisition Regulations (DFAR) that are then added to Service-specific regulations and desires. The result is that not only are commercial e-business systems customized to not only meet federal requirements, but also to meet DoD, Service, and even individual post, camp, and station regulations and desires.

The Task Force noted that numerous briefers argued that this complexity is unique to the DoD and

that because it is intractable it drives and justifies the need to customize a DoD-wide solution. However, the Task Force believes that these are existence proofs of very large, complex, multientity organizations (e.g., General Motors and General Electric) that have successfully implemented an e-business transformation and have benefited immensely from the undertaking. The Task Force believes the same is possible for the DoD.

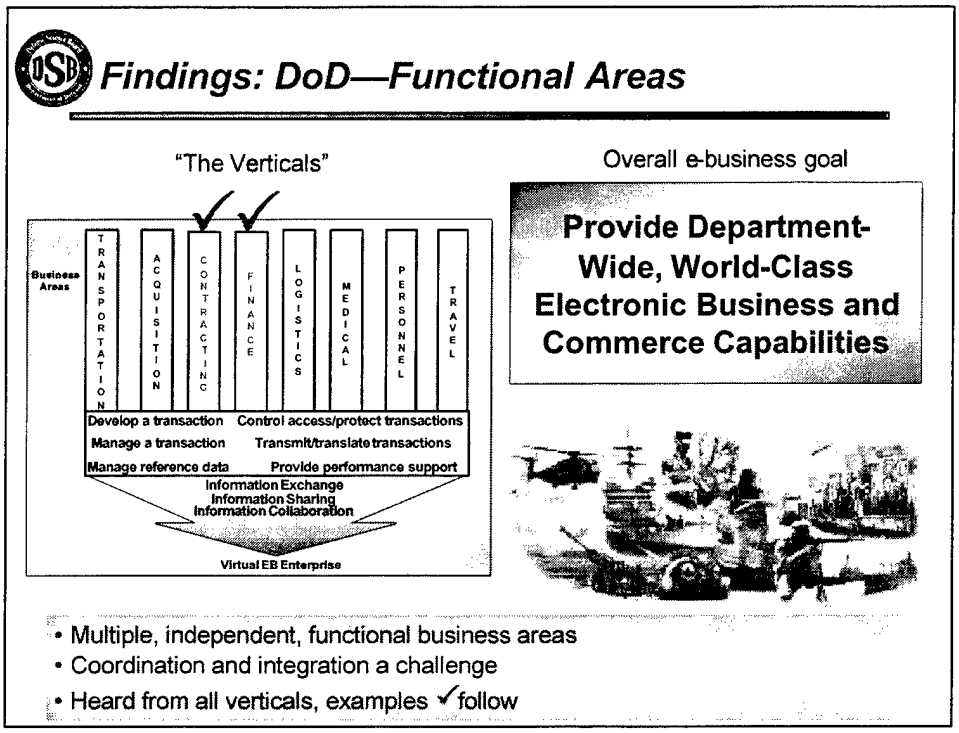

Figure 16. Findings: DoD—Functional Areas

As indicated by the preceding discussion, the DoD has undertaken numerous e-business initiatives, with varying degrees of success. In addition, concepts, architecture, and plans have been formulated for business automation.

Figure 16 identifies DoD's functional business areas and shows the conceptual framework for integrating them. The sidebar at right presents the overall e-commerce goal that the DoD presented to the Task Force. The conceptual framework at left implies that the DoD intends to integrate all of the functional areas into an enterprise-wide, interoperable e-business system of systems—a critically important concept to set and gain acceptance for throughout the DoD.

The DoD's overall e-business goal, however, lacks a quantifiable goal against which progress across the entire enterprise can be measured. The goal of providing world-class capabilities is in itself a means to an end but the "end" remains unspecified.

The Task Force heard briefings on the overall conceptual framework from key individuals leading or supporting each of the functional areas. As noted, significant activity is occurring in each functional area. For purposes of this report, the Task Force chose to discuss its observations on two areas: contracting and finance. Earlier DSB studies have addressed logistics.[1] One of the co-chairs of those studies participated in the study reported herein.

[1] Defense Science Board 1998 Summer Study Task Force. "DoD Logistics Transformation," Vols. I and II, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, Washington, D.C. (December 1998).

Findings: DoD End-to-End Procurement Model

- Background:
  - *End-to-end* procurement process model in place
    - Under DoD e-business Board of Directors
    - Senior Coordinating Group subpanels
    - IPT established
  - Over 150 DoD and industry participants developed an *Operational Architecture* (as is and to be) focused on DoD back-office processes
  - OA primarily *a coordination effort* for implementation
    - Functionals own their business processes
    - Military services set their own priorities (weapon system acquisition being at the top)
    - *Defense Logistics Agency proceeding independently*
    - Interfaces for 220 systems must be developed

Figure 17. Findings: DoD End-to-End Procurement Model

The automation of DoD's contracting systems began with the development of an end-to-end procurement model. The goal of this effort was to capture, in process models, how information flows through the many contracting entities, systems, and people associated with this DoD functional area. The modeling effort was (is) supported under the DoD e-business Board of Directors and managed on a continuing basis through an Integrated Product Team (IPT).

The IPT coordinates the efforts of over 150 participants including many cross-functional participants from DoD as well as representatives for the private sector. The modeling effort has resulted in an Operational Architecture that formally captures the contracting information flows at the time the study was undertaken, as well as a desired information flow (and associated systems) process model that would be achieved through the modernization of the existing systems.

It is interesting to note that the primary focus of the modeling effort has been to automate DoD back-office processes and the attendant desire to reduce the many "home-grown" contracting systems that exist throughout DoD.

Furthermore, the effort was undertaken with several organizationally imposed constraints; the six other functional areas still owned their own systems. Thus, although contracting impacts and is impacted by these other functional areas (and their associated systems), the IPT at best could only request support. A fully integrated e-business operational architecture across all functional areas was not (could not be) undertaken. Furthermore, within each Service, many contracting systems have evolved that "meet their operative entities' needs." In addition, the Defense Logistics Agency has already undertaken

an initiative to modernize their contracting system. They are proceeding independently of the IPT findings.

Consequently, the IPT modeling process has become more of a coordination effort. It has identified 220 IT systems that it must interface with while the "standard procurement system" is developed. The IPT has become a coordination effort between the "owners" of these other systems, the Defense Logistics Agency's system, and the enterprise-wide standard system that the DoD is attempting to develop.

Findings: DoD-Standard Procurement System

- Background (concluded):
  - Automation process *started 1992*
    - Identified 76 contract writing systems
    - Developed activity and data models for "as is"
  - Concept for *"to be"* system *started 1994*
  - *RFP* and acquisition strategy *1995 —>1996*
  - *Delivery* of system over *1997 - 2003* time frame
- Requirements
  - Must *support 43,000* users at 1,100 sites
  - System developed and *deployed to 21,000* users so far
- Observations:
  - Did not start with e-business goal
    - *No BPR understood or undertaken*
  - Started with COTS products but little remains in system today
  - *Divergence from COTS* driven by:
    - FAR and DFARS compliance
    - Difficult to manage introduction, retirement of legacy systems
    - *Interfaces to other DoD systems* (logistics, accounting/finance)
    - *Inability to change culture and business practices*
    - *299* Joint requirements

Figure 18. Findings: DoD-Standard Procurement System

One of the undertakings by DoD to automate its contracting processes was a commitment to developing the Standard Procurement System (SPS). The effort began in 1992 with the goal of solving several identified deficiencies in the existing DoD contracting process. These deficiencies included

- Manual, repetitive, duplicate processes
- Absence of requirements visibility to customers
- Data redundancy in legacy systems
- Absence of data integrity, proliferation of data
- Problem disbursements
- Outdated procurement support systems.

At the outset, a requirement was set that the standard system must support the existing processes, regulations, and desires of the existing DoD procurement communities. Thus, the system was to be FAR and DFAR compliant, was to conform not only to the general rule, and was also to handle all foreseeable exceptions. Furthermore, to gain community acceptance, it had to support existing procurement processes throughout DoD—that is the reengineering of business processing was not part of the conceptual framework for implementing the SPS. The result of this approach was that 299 joint requirements were established for the system.

Findings: DoD—Standard Procurement System

- Observations (concluded):
  - Client-server based, does not scale well, difficult to maintain
    - Industry has migrated to Web-based
  - Architected such that users cannot take advantage of upgrades
    - Not an open system
  - Requires site surveys, *infrastructure upgrades,* application installation, training
    - $50-60 million per year investment, primarily for training
    - Inadequate resources (funding) to support "last mile" infrastructure upgrades necessary to garner SPS benefits
  - Services expenditures are spending in support of SPS unknown

Figure 19. Findings: DoD-Standard Procurement System—Observations

As the definition phase for SPS proceeded, a significant body of critical work and results were completed. From 1992 to 1995, DoD contract writing systems were identified, process models for contracting were determined, standard DoD data definitions were developed, and function requirements and data models were developed for the SPS.

Furthermore, a survey was undertaken to identify available commercial systems that would meet the SPS implementation constraints and the 299 joint requirements noted above. Naturally, no such system was identified. Consequently, DoD contracted to have a DoD-unique system developed that met its self-imposed constraints.

The system has been under development since 1995 and is being incrementally delivered. It is client server based (although the private sector has abandoned this architecture in support of the much more cost effective Web-based designs); it is DoD-unique and developed in a manner that does not allow DoD to take advantage of the evolving commercial e-business technology base; and its deployment has been hampered by user resistance and the lack of adequate infrastructure resources at user sites to host and support the SPS client-site components and transactions with the host-site application.

Although the SPS is automating contracting processes in DoD and is adding value, it falls far short of the value a standard procurement system could provide to DoD. This shortfall, in hindsight, is attributable to the constraint set imposed on the system's definition, how it was sold to the user community, and its ultimate implementation philosophy. In fact, each of these elements stands in nearly

complete orthogonality to the key foundation principles for the successful introduction of e-business processes and technology into large private-sector organizations, as discussed in the previous section of this report.

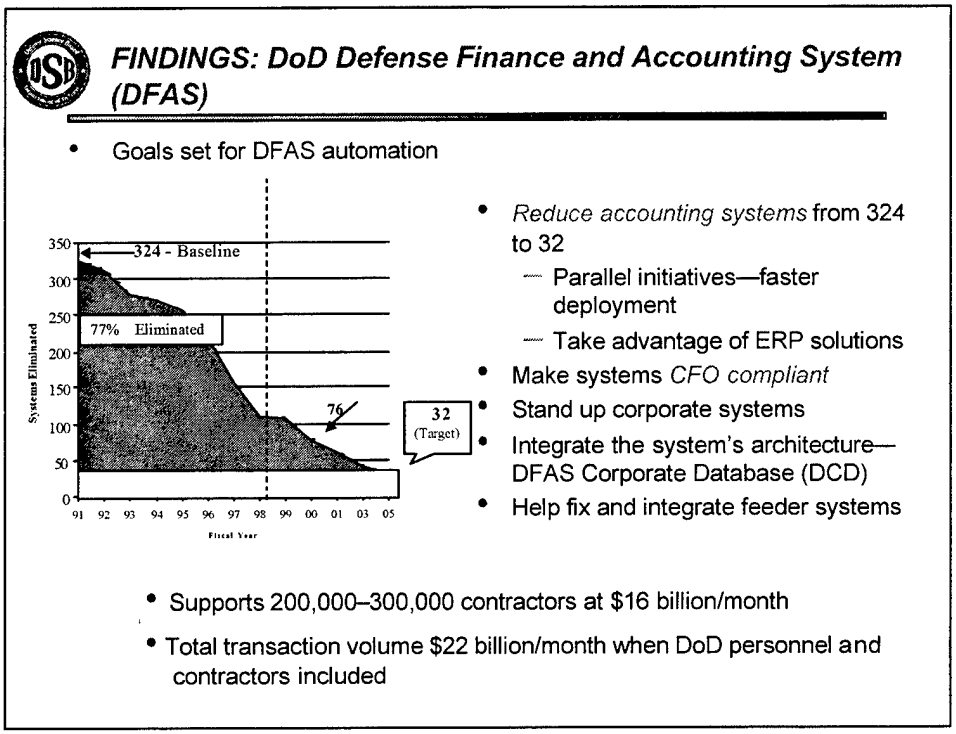

Figure 20. Findings: DoD Defense Finance and Accounting System (DFAS)

A similar situation has resulted in another key functional area of the DoD business infrastructure: Finance. In this functional area, the Department undertook the design and development of the Defense Finance and Accounting System (DFAS), whose goal was to reduce Service and Agency accounting systems from a total of 324 to 32. A related goal was to meet the Federal Chief Financial Officer's (CFO's) requirement that the DoD be able to achieve an auditable set of accounting information.

From the inception of the DFAS development process in 1991, the total number of DoD financial systems has been reduced from 324 to about 100 in 2000, with the goal of 32 set for the 2003 to 2005 time frame. In addition, today the DFAS supports 200,000 to 300,000 contractors at a total of $16 billion per month (excluding DoD personnel transactions).

However, DoD is still unable to meet its goal of fielding an auditable financial system. The Friedman Report,[2] 13 April 2001, cited the lack of an overarching financial management approach, overly complex data requirements, and poorly resolved business processes as the reasons for the DoD's inability to produce reliable financial statements.

This report challenged the DoD to produce relevant, reliable, and timely financial information, affirmed by a clean audit, to support DOD decision-making. It asserts that COTS software can do the

[2] Friedman, S. 2001 "Transforming Department of Defense Financial Management: A Strategy for Change," Final Report, United States Department of Defense, Washington, D.C. (13 April).

job and suggests a two-track solution:

- Track 1, structural change (longer horizon but incremental successes): develop standard integrated financial intelligence systems, i.e., a systems architecture
- Track 2, close-in success: implement a series of Service projects for major cost savings/high value benefit—manage with metrics, i.e., ABC, benchmarking, and the like.

A subsequent SecDef memo, of 20 July 2001, established a DOD Financial Management Modernization Program as a high priority and created a Program Management Office (PMO) for developing an enterprise-wide system architecture and for controlling systems development, acquisition, upgrade, and deployment for all financial and feeder systems to DFAS. The SecDef also holds the Service Secretaries accountable for their financial systems.

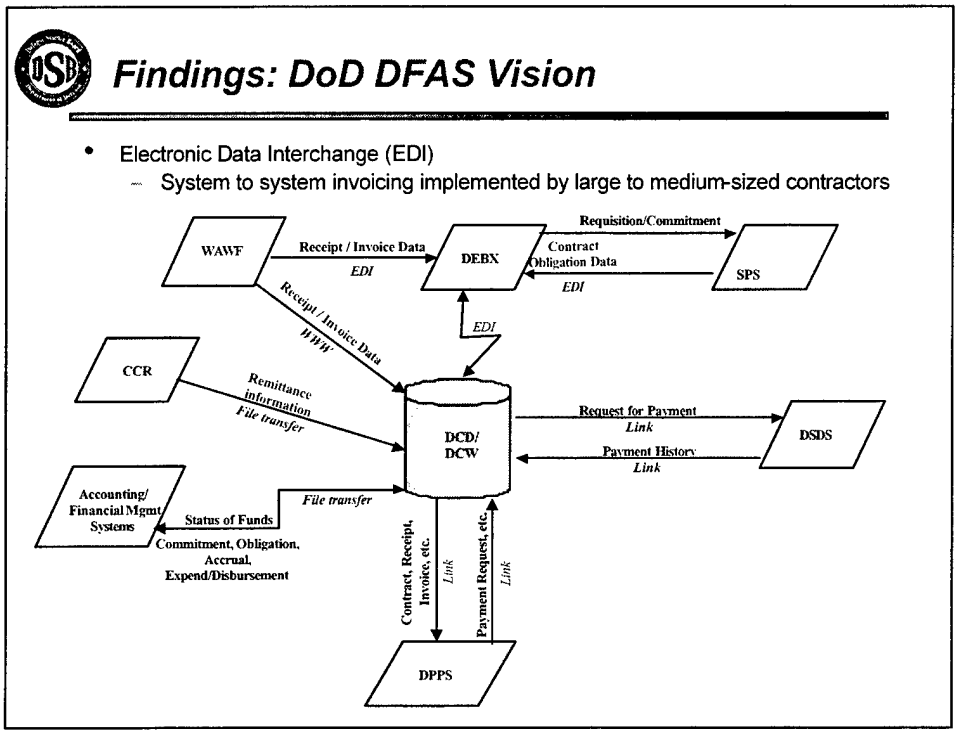

Figure 21. Findings: DoD DFAS Vision

We now describe how the DoD arrived at this state of affairs with regard to DFAS.

First, DoD established a vision for DFAS, shown in Figure 20, that required the integration of numerous databases and systems both within and outside the sphere of influence of the finance functional-area community. Furthermore, the DoD established 957 requirements to be met by the contractor(s) implementing DFAS.

The DoD's vision predicated the use of commercial electronic data interchange (EDI) standards as the basis for moving data between some of the subelements of DFAS (the DFAS Corporate Database [DCD], Defense Procurement Payment System [DPPS], and the Defense Standard Disbursing System [DSDS]). Furthermore, EDI was to be used to support automated invoices to DoD from large and medium-sized customers.

However, underlying the DoD's vision is the requirement that the DCD (the core component of the DFAS) support 220 interfaces to other feeder systems throughout DoD. These interfaces had to be defined and must be upgraded (maintained) as the feeder systems evolve along their respective evolutionary paths. As the DCD began to evolve, the constraints set for its implementation evolved from a COTS implementation to a substantially customized database system that is now unique to the DoD.

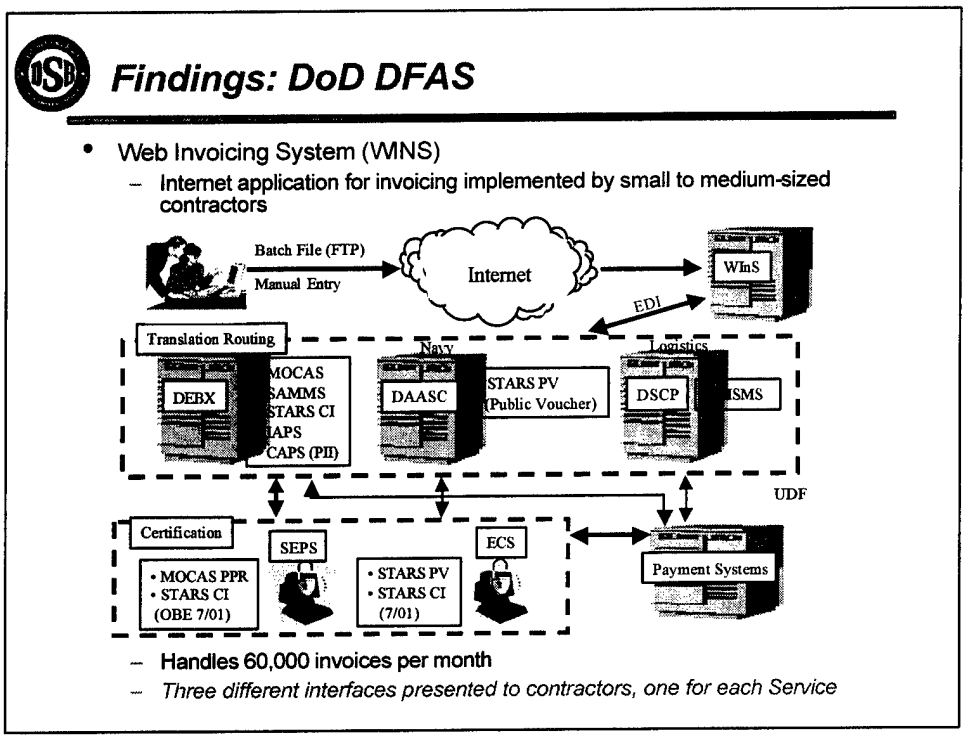

Figure 22. Findings: DoD DFAS and WInS

As DFAS deployment began, it became apparent that requiring contractors to use EDI as the means of accessing the system was unsupportable—especially for smaller organizations that could or would not invest in the technology. To solve this issue, a grass-roots initiative was undertaken in the OSD's Electronic Commerce Office. A concept for a Web-based invoicing system (WInS) was developed and deployed. The system provides value to vendors by reducing their wait-time for progress payments, reduces DoD labor and administrative costs, and improves the accuracy of DoD accounting data. WINS presently handles 60,000 invoices per month.

However, in order to meet Service requirements, a separate and distinct WInS invoice-handler screen has been developed and is being maintained for each Service. The lack of a process and someone responsible for resolving such Service differences from a "DoD enterprise perspective" results in added system complexity and cost.

Additionally, there is no formal user participation in the requirements generation or configuration management process; nor do there appear to be adequate training materials for the application.

Finally, because of its design WInS does not handle invoices that require certifications.

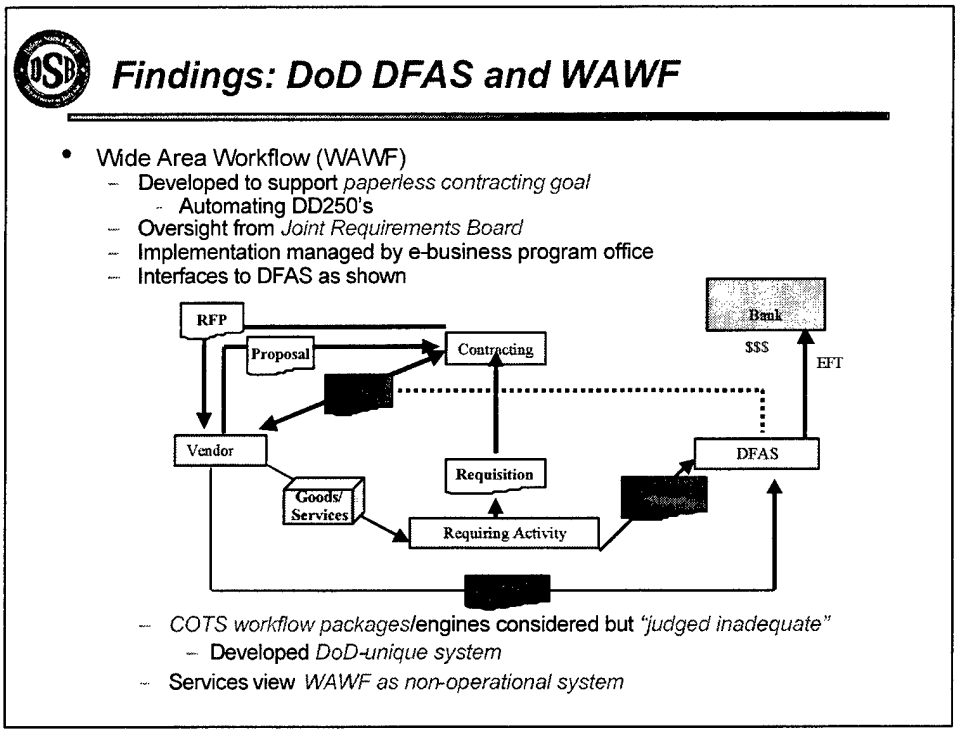

Figure 23. Findings: DoD DFAS and WAWF

Completely independent of WInS, a second DoD system is being developed to support electronic invoice processing. This system, called Wide Area Workflow—Receipts and Acceptance (WAWF-RA), is being developed under the auspices of DISA. This initiative was undertaken in response to the Government Paperwork Elimination Act, not from an e-business process improvement perspective. Consequently, WAWF-RA seeks to automate existing paper processes, replacing the paper handling activities with computers.

WAWF-RA is a DoD-developed Web-based system whose goal is to allow DoD contractors and authorized DoD personnel to generate, capture, and process contract, receiving report, and invoice data. Although WAWF-RA implementers looked at potential commercial products, DoD-unique needs drove the implementers to building a DoD-specific system. Development, ownership, and associated maintenance costs fall entirely on the DoD.

WAWF-RA benefits from its user-led requirements process, which ensures that the product meets user needs. WAWF-RA has been successfully piloted by the DCMA, Air Force, and Navy sites. However, the Services agree that WAWF-RA is a pilot system (as it exists today). They are not ready to declare it an operational system. Issues remain as to the product's scalability—the number of concurrent users that the system can support remains to be determined.

Recently DoD's Business Initiative Council recommended merging the WInS and WAWF-RA capabilities into a single, integrated system. However, the more fundamental issue of how such systems fit into an integrated DoD e-business system of systems based on improving business processes remains

unresolved.

Findings: DoD DFAS Customization

- Sixty to seventy percent of *DFAS based on commercial products*
- Thirty to forty percent *customized to meet DoD self-imposed regulations and preferences*

DFAS Customizations	Public Law	Regulations	GRID AT	System Architecture	Business Preferences DFAS	Business Preferences DoD
Contract Management Module						
EDI 850 API			X			
EDI 860 API			X			
Contract Clauses		X				
Auto Contract Closeout/API			X			
Contract Funds Management						
Appropriation Status API				X	X	
Treasury Confirmation				X		
Purchasing						
EDI 855/861 API			X			
Vendor/Customer Address		X	X	X		
Line Level Module						
EDI 810 API				X		
Unique Invoice Number					X	
Multiple Payment Terms		X				X
Split Invoice					X	
Accounts Payable						
Enhanced Approval		X		X		X
FMS API		X		X		X
Self-Obligating Transactions			X			X
Request for Transportation			X			X
Payment Output API				X		
Third Party Payment		X				X
Prompt Payment	X	X				X
AR/AP Netting					X	
Contract Financing/Recoupment		X				X
Write-off Payables API			X	X	X	
Accounts Receivable						
AR/AP Netting					X	
Claims Receivable API			X			
Debt Write-off API			X			

- *Fifty percent* of COTS *changes would not have been made* if "regulations" were modified or relaxed even to JFMIP standards!
- Changes will be *costly* to DoD for *maintenance and support* of the system over its lifetime

Figure 24. Findings: DoD DFAS Customization

The question could be asked as to whether the large amount of customization of the DFAS and its feeder systems might have been avoided. This question is answered in part by the information contained in Figure 24. In this figure, the first column at left shows the customization of foundation COTS while the DFAS was developed. The second column shows which of these customizations were required by public law, the third column those required by DoD self-imposed regulations, and so forth. In discussions with the DoD DFAS representatives, the observation the Task Force drew from this is that 50% of the changes would not have been made if DoD regulations were relaxed to JFMIP standards and an additional 40+% changes would not have been made if "preferences" had not been accepted as a reason for software customization. In other words, if business practices reengineering had been the implementation policy as opposed to automating existing practices, and if strong resolute leadership were in place to adjudicate these issues, an almost entirely COTS solution would have been feasible.

The consequences of customizing COTS for DFAS is that the DoD now has a unique product. Thus, contrary to the basic tenants of e-business deployment in the private sector, the DoD must support and maintain this product and is thus at the mercy of the supplier, and the DoD cannot take advantage of later versions of the evolving and maturing underlying COTS product.

The circumstances that affect the SPS and DFAS also exist, to a greater or lesser degree, in the other six DoD business functional areas listed in Figure 16. Issues such as the three different interface screens that the DoD automated travel system must support to accommodate the different preferences

of the three Services (e.g., different numbers of approval signatures); some functional areas automating their processes nearly independently of the others, causing significant interface and interoperability costs; and the like are all issues the Task Force heard in or identified from the briefings provided by DoD representatives from each functional area. Furthermore, although the issues were raised during the briefings, it became evident to the Task Force that no one in the DoD had the day-to-day responsibility and authority to address and resolve these issues from a DoD-wide perspective. Consequently, the functional area communities were doing their best to address the directives noted in Figure 12, but were doing so from their respective viewpoints—coordinating for information exchange purposes, but proceeding as they deemed necessary to get their business processes automated.

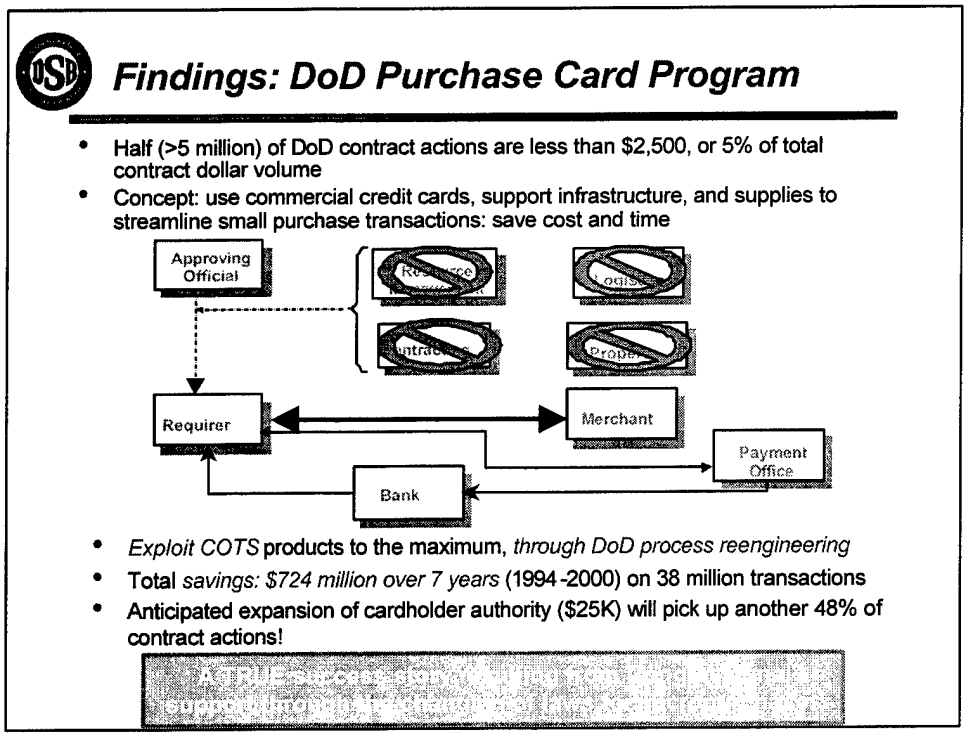

Figure 25. Findings: DoD Purchase Card Program

In contrast to the problems in the functional area automation efforts, two DoD initiatives that were briefed to the Task Force have been resounding successes in terms of the use by the DoD of commercial e-business processes, technology, deployment and infrastructure. The first example is the Purchase Card Program (PCP). In this program, DoD has taken full advantage of the existing private sector credit card system infrastructure and practices. By doing so, DoD has immensely improved its handling of small contract actions, will achieve a significant cost savings on these transactions, and will continue to benefit from the continual competition and product (service) improvements in the credit-card industry.

It is interesting to note that the PCP came about through Congressional support and the changing of laws associated with "small" purchases made within the government. These changes in the law allowed DoD to change its business practices to mirror those used by private-sector companies for credit card authorization, use, and management. DoD is now negotiating with the credit card industry on a par with other large enterprises, thus reaping the benefits of competition and volume in that industry. Furthermore DoD takes full advantage of the service and product improvement processes the industry is providing. This program should not be judged by a few publicized abuses. As in the private sector, these abuses should be handled swiftly and firmly within the legal system while the DoD moves on to achieve the benefits of the technology.

A second success story was presented by the Commander of the Military Sealift Command. In this case, the Commander himself became a day-to-day proponent of modernizing the Command's financial system. The process began with a mandate that COTS products would be used as is; to accommodate these products, the Command's financial business process would change. Second, the

Admiral sold the benefits of e-business to his staff and set hard goals for when the system must be updated and what the expected benefits would be. Finally, he instituted continuous training on the new system and its embedded financial business practices. The new system was introduced on schedule (the legacy DoD proprietary system was turned off) and the Command now has full visibility into and accurate accounting of its financial practices. Furthermore, the Command is upgrading its system, a COTS product, with no impact to operations.

It is interesting to note that the greatest challenge faced by the Admiral was the cultural change required within the Command to permit the use of COTS products—that change being business process reengineering. The Admiral noted what has been well understood in the private sector as a result of many costly failures, that the keys to the success of this successful e-business undertaking were (1) aggressively working the culture change, (2) facilitating the introduction of new systems through extensive training, (3) his being the sole authority for resolving technical and process issues, and (4) being the visible spokesperson.

e-business Implementation Comparison—A Summary

Private Sector	DoD
• CEO sets vision and quantifies goal • CEO promotes vision, sells concept and remains personally involved	• CEO = SecDef • Delegation of responsibility not clear – USD (AT&L) – Comptroller • Service "Title 10" arguments
• Complex Made Simple – Management structure streamlined – Policies support mission – Implementations controlled	• Complexity rules – Very complex management structures – Many conflicting policies – Many independent initiatives
• Max use of COTS solutions – Minimum customization/ Low TCO – Processes changed as required	• Customized COTS and JFMIP solutions – Minimal enterprise-wide BPR – High TCO
• Managers held accountable • Culture change managed	• Minimal accountability • Fundamental change resisted
• e-business infrastructure provided • Incentive/rewards provided to those who generate benefits	• e-business Infrastructure deployment delegated to user • Minimal incentives and recognition for organizations/ individuals

Figure 26. e-business Implementation Comparison—A Summary

Figure 26 summarizes the Task Force's findings regarding the introduction of e-business practices, technologies, and infrastructure as practiced in the private sector and in the DoD. The figure captures the foundation principles for success in the private sector, (discussed earlier in this report) and juxtaposes the Task Force' findings with regard to the DoD.

From the figure and the preceding discussions, it is clear that the DoD's approach could lead to the successful introduction of e-business into the Department, with the attendant benefits summarized in the next figure; however, the Task Force assesses the probability of such an outcome as very low. It is clear that the Department has undertaken a process of automating its business practices and is making progress in doing so. What remains in question is how much the new DoD proprietary infrastructure will cost the Department and how much benefit will actually be derived from the infrastructure in the near and long terms.

Looking Forward—Opportunities

- *e-Procurement*
  - Categorize procurement buys into:
    - Non-DLA stocked commodities
    - DLA stocked commodities
    - Service managed repairables and components
  - For non-DLA stocked commodities:
    - Gain cross service visibility
    - Aggregate and buy as an enterprise
      - e-catalogs
      - reverse auctions
      - industry market places
  - For DLA stocked commodities:
    - Share data to improve asset management
    - Reduce cycle times by a factor of 3
    - Reduce inventory by 25%
    - Reduce surcharge costs by 50%
    - Increase customer satisfaction
  - For Service managed repairables and components:
    - Same as DLA
    - Manage and incent
    - Anticipate and manage the repair process
      - Integrate supply and maintenance data
      - Use forecasting tools to reduce cycle times

Figure 27. e-Procurement Opportunities

The Task Force believes that the DoD would benefit immensely from restructuring its many ongoing business automation initiatives. The benefits accrued to DoD from implementing an e-business strategy as done in the private sector are difficult to quantify. However, one can attempt to do so through the use of analogies with private-sector outcomes, as shown in Figures 27 through 30.

With regard to e-procurement (Figure 27), the Task Force notes that the Department has many opportunities to reduce operating costs. The private sector has been aggressively pursuing these opportunities by using procurement tools such as industry aggregation market places, reverse auctions, e-catalogs, and indirect purchase aggregation. Typical results of embodying these procurement practices are 15% cost reductions on purchases plus inventory reductions of 20–50% in the first implementation, plus subsequent reductions of 3–5% for the next 3–4 years. In some cases, the cost reductions are 30% or more when the entire inventory is outsourced using "just in time" practices.

With commercial outcomes as a guide, the Task Force expects that by aggregating its buy by category and commodity, by adopting (where prudent given the national security mission) just-in-time inventory practices, and by using near state-of-the-art e-procurement tools, the DOD should expect 10–15% reductions in procurement costs for commodities (non-mission-critical acquisitions) when these systems are first utilized an additional 3–5% savings per year for the next 2 to 3 years should also be possible. This should lead to $5–10 billion cost savings in the first year alone.

By exploiting e-procurement systems used in the private sector, DoD can achieve the benefits noted in this figure. To do so, however, all procurement initiatives across the Department must be integrated with each other under a common vision, strategy, and implementation approach.

Furthermore, the e-procurement system must be viewed as part of an integrated e-business suite of applications (discussed next).

Looking Forward—Opportunities

- *People Systems*
  - Efficiency in managing people
    - Integrated and shared information on all personnel (active, reserve, guard, and civilian)
      - Who they are
      - Where they are
      - What they can do well
      - Training history
      - Assignments consistent with background or training
    - Ability to cope with dynamically changing organizational structures in real time (e.g., JTFs)
  - Personnel operations
    - Recruiting/retention
    - Self-service
      - Career planning
      - Training
      - New hire orientation
      - Updating personnel record
      - Retiree benefits
      - Benefits selection and management

Figure 28. People Systems

The Department has many opportunities to reduce costs and improve morale by adopting private-sector e-people practices. Commercial business has been able to reduce indirect-support personnel costs over a range of 50–90%, while, more importantly, significantly improving employee satisfaction and morale. These practices are in no way intended to replace the one-on-one employee-supervisor relationship, but business has found that e-people systems provide an effective and efficient way for employees to help themselves in areas such as benefit selection and management, career planning, training, job posting, personal record updating, retiree benefit support, new hire orientation, and the like. The proposed Defense Integrated Military Human Resources System (DIMHRS) system could go a long way toward achieving people-based values; however, a highly modified COTS system is not likely to achieve indirect cost savings.

Looking Forward—Opportunities

- *Logistics and Asset Management*
  - Provide total asset visibility at all times
    - Functional integration of:
      - Supply
      - Maintenance
      - Distribution
      - Transportation
    - Predictive analysis (forecasting)
      - Improved asset availability
      - Reduce inventory
      - More efficient delivery
      - Reduced customer wait time

Figure 29. Logistics and Asset Management

The 1998 DSB studies on logistics management[3] pointed out cost saving opportunities for the DoD in this functional area. Estimates of savings in those studies amounted to about $10 billion per year. DOD has made significant progress in automating and thereby improving the management of medical logistics and with DLA-handled materiel. Nevertheless, there remain very large opportunities for logistic savings and inventory reduction through the effective use of Enterprise Resource Planning (ERP) systems. These opportunities would significantly improve our military force effectiveness while at the same time providing cost savings.

These opportunities include the tracking of supply and repair parts inventory. Such tracking will permit the best and most efficient use of the inventory and limit the current large inventory obsolescence costs, while reducing supply time by optimizing the consolidation of loads for each route. The Task Force concurs with the earlier savings estimate of $10 billion per year, and it would also expect tens of billions of dollars in asset reduction that could add to the reduction of the DOD's cash flow.

[3] Defense Science Board 1998 Summer Study Task Force. "DoD Logistics Transformat
of the Under Secretary of Defense for Acquisition, Technology and Logistics, Washington, D.C (December 1998).

Looking Forward—Opportunities

- *Financial Management Systems*
  - Real-time and accurate state of the business information
    - Working capital funds
    - Obligations
    - Disbursements
    - Integrated cash flow
    - Contingent liability money
    - Appropriation accounts
  - CFO-compliant auditable financials
  - Accurate future year programming

Figure 30. Financial Management Systems

With accurate and timely financial management systems, DOD has the potential to manage its business in a manner that more closely reflects the intent of its leadership and more efficiently utilizes its resources. This access to a real-time state-of-the-business picture allows private-sector enterprises to make rapid, well-informed business decisions and to close their books each quarter in a matter of hours. DFAS initiatives, which targeted reductions in the complexity and number of financial systems in the DoD, were attempts to achieve the goal of allowing the DoD to provide an auditable financial system. The Task Force believes that a DoD integrated financial-management system based on COTS products coupled with ERP systems will permit enormous improvements in back-office efficiency, resulting in accurate, timely DoD financial information developed and managed by far fewer people than are involved today. Private sector experience indicates that back-office support personnel can be reduced by over 50% with the introduction of e-business financial management systems. Similar cost savings, in addition to auditable financial accounting, should be goals achievable by the DoD.

Conclusion: e-business Benefits for the DoD

Improving the Department's e-business practices will result in *tens of billions of dollars* in savings per year, which would be available for application to the Department's primary mission, fighting and winning our nation's wars

Figure 31. Conclusion

In summary, an integrated DoD e-business system of systems based on private-sector COTS products will contribute tens of billions of dollars in savings to the DOD, will provide more accurate and timely data for decision making, and will permit significant improvements in back-office efficiency. The Task Force therefore makes the following recommendations based on its findings.

Recommendations

Recommendation 1—Set a Vision and Goals

- The Secretary of Defense should establish a simple, clear vision for e-business within the Department. The SecDef should
  - Set quantified enterprise goals
  - Measure progress consistently and periodically over time
  - Communicate personally and repeatedly the vision and goals in order to motivate the enterprise

Who: Secretary of Defense
When: 60 days from Task Force briefout

Figure 32. Setting a DoD e-business Vision and Goals

The Secretary of Defense, by analogy with the private sector, the CEO of the DoD enterprise, should establish a simple, clear vision for the introduction of e-business practices, technology, and infrastructure into the Department. This vision should include quantified enterprise goals that the introduction of e-business will strive to achieve (savings of $10 billion per year, balanced financial books by 2003, an inventory reduced by 75%, and the like). The vision can be easily extracted from a speech the SecDef made on 10 September 2001 (Annex C).

Furthermore, the SecDef must keep the vision, strategy, and goals for e-business high on the priority list of the Department. He must keep the vision alive, as he is doing with the War on Terrorism through consistent and periodic speeches on the subject, by requesting consistent and periodic assessment of progress toward meeting the enterprise goals, if success is to be achieved.

Continuous personal involvement in order to motivate the enterprise to meet its goals is a must, as evidenced by the success of private-sector CEOs who have introduced e-business into their enterprises.

The Task Force encourages Recommendation 1 be implemented as soon as possible. A reasonable goal would be 60 days from the time this report is briefed to its sponsor.

Recommendation 2 – Make a Single Individual Responsible

- Create a senior-level executive position, reporting to the Business Initiative Council (BIC), with the day-to-day job of achieving the DoD's e-business goals
  - Assign responsibility and provide necessary authority
  - Hold the Senior Executive accountable for meeting enterprise goals
  - Make a 5-year appointment*

Who: SecDef
When: 90 days from Task Force report

*Precedent set by the Department of Education Performance Based Organization (PBO)

Figure 33. Recommendation 2 – Make A Single Individual Responsible

The SecDef should then select a Senior Executive and make that individual responsible for the day-to-day realization of the DoD e-business vision, strategy, implementation, and deployment. This individual must be held accountable by the SecDef for meeting the DoD e-business goals set by the SecDef. To meet this challenge, the Senior Executive must have the authority to make decisions regarding all aspects of the e-business deployment from the realization of the vision to the resolution of detailed implementation issues. The Task Force recommends that the appointment be for *5 years* in order to provide continuity of the DoD e-business initiative across administrations. The Senior Executive must report directly to the SecDef.

The Task Force believes that this selection of the Senior Executive can be accomplished in 90 days from the release of this report.

Recommendation 3— Responsibilities of the Senior Executive

- Senior Executive should
  - Be single authority for resolution of e-business implementation issues
  - Flow down DoD quantified e-business goals to Service Secretaries as specific subgoals to each organizational unit
  - Ensure that the benefits of e-Business implementation are being achieved
  - Simplify the multilayer e-business management structure that currently exists within the Department
  - Be the interface to the Senior Executive Council on day-to-day e-business activities
  - Tighten policy and *enforce* the use of COTS e-business solutions
    - Make JFMIP the DoD regulation basis
    - Realign Services-unique requirements to form a unified set of business practices

Figure 34. Recommendation 3—Responsibilities of the Senior Executive

The Senior Executive will have numerous responsibilities. Based on the Task Force's findings, several of these responsibilities are noted in Figure 34. For example, the Senior Executive should flow down quantified e-business goals to Service Secretaries and DoD Agency leaders as is done in the private sector where managers of operating units are given subgoals in support of the enterprise-wide e-business goals. The units' performance against these sub goals should be periodically reported by the Secretaries of each Service or the head of each Agency to the Senior Executive, who would then report progress to the SecDef.

Another critical responsibility of this individual would be to assert an e-business implementation policy that sets an enterprise goal of using COTS e-business technology (especially software applications). This policy would be enforced through the review and re-baselining of all ongoing e-business development initiatives within the Department. This policy should be sufficiently specific to cause the Service-unique e-business preferences and practices to be aligned such that a single set of enterprise-wide practices are established.

Recommendation 3— Responsibilities of the Senior Executive

- The Senior Executive should, working through the DoD CIO,
  - Implement necessary DoD e-business infrastructures including post, camp, and station
  - Establish a system engineering office to assess technical progress and resolve technical issues
  - Publish detailed architectures (operational and systems) for department e-business
  - Publish an implementation plan for e-business system architecture and subcomponents

Who: Senior Executive
When: 240 days post Task Force report

Figure 35. Recommendation 3—Responsibilities of the Senior Executive

Finally, the Senior Executive must be responsible for deploying an infrastructure to support the e-business software. Working through the DoD Chief Information Officer, the Senior Executive must ensure that all user sites (including post, camp, and station locations) have the computing and telecommunication resources to permit the hosting and efficient use of the software applications and associated e-business databases.

Furthermore, the Senior Executive must be responsible, again working through the DoD CIO, for publishing and maintaining a comprehensive, enterprise-wide system and operational architecture for a fully integrated e-business system of systems. (The subsystems include those software applications supporting each of the DoD functional areas shown in Figure 16. They should also include all Service and Agency sub-components of each functional area system and all their related databases). The outcome of the architecture effort should be a detailed implementation plan for the enterprise-wide e-business system of systems. The plan should identify subsystems that will be delegated to Service Secretaries and Agency heads for implementation. Interfaces between each subsystem and subcomponent must be fully detailed. The Senior Executive, working through a Systems Engineering Office (SEO) that he/she establishes, must report quarterly to the SecDef on progress in delivering a DoD e-business system of systems. The SEO should be a tool used by the Senior Executive to resolve the technical design, development, and integration issues that will arise. The SEO should also be the means by which the Senior Executive ensures that COTS business technology is used, unmodified, in the subcomponents of the system of systems as it is developed.

The Task Force believes that the development of the architecture and plans and the establishment of the SEO should be completed 240 days from the release of this report.

Recommendation 4—COTS as the Foundation for DoD e-business

- Conduct in-depth review of all DoD e-business systems and subsystems under procurement or to be procured, with the goals of:
  - Establishing the extent of and reasons for divergence from COTS products
  - Establishing whether requirements and preferences that drove divergence can be relaxed
  - Estimating anticipated costs of ownership resulting from customization
  - Establishing strategy/ability to introduce evolving revisions of COTS foundation software into a given system
  - Completing cost/benefits analysis for continuing with each system rather than starting over with a COTS solution and BPR
  - Establish and execute a transition strategy to move toward COTS products, as appropriate

Who: Senior Executive
When: 360 days after task force report

Figure 36. Recommendation 4—COTS as the Foundation for DoD e-business

Concurrent with the architecture development process, the Senior Executive should conduct an in-depth review of all DoD e-business system development activities either underway or planned. The goal of this review should be to understand and rectify circumstances that drove the systems toward proprietary DoD implementations. Then, the Senior Executive must, using delegated authority from the SecDef, undertake a process to eliminate these circumstances (i.e., DoD self-imposed regulations, Service preferences, and the like) and establish a plan and process for either transitioning the identified subsystems back to COTS or terminating their implementation and procuring COTS solutions. In either case, a process must be established to address business process reengineering (BPR) so that the DoD can effectively use the COTS products.

This task should be completed by the Senior Executive 360 days after the release of this report. The task would, by its intent, be executed concurrently with Recommendation 3. Finally, the Senior Executive should support a SecDef initiative to remove particularly onerous regulations, laws, and preferences that inhibit or limit the use of COTS products. The focus of DoD's e-business initiatives must be on process and regulation change rather than on the modification of COTS products.

Recommendation 5— Manage/Facilitate the Culture Change

- Create and resource change management teams for each major DoD e-business implementation identified in operational architecture
  - The teams should:
    - Participate in development of DoD e-business architectures
    - Communicate vision, goals and performance metrics to all who will be impacted by their respective subsystems
    - Be responsible for training all appropriate users of subsystem
    - Be responsible for bringing implementation and process re-engineering issues to the attention of the Senior Executive for resolution

Who: Senior Executive
When: Continuously as each system evolves

Figure 37. Recommendation 5—Manage/Facilitate the Culture Change

Finally, to facilitate the DoD culture change through the BPR process and the introduction of COTS e-business applications, the Senior Executive should establish and resource change management teams for each major e-business subsystem that will be deployed. The goals for these teams would be to work with the anticipated users of each subsystem to communicate the overall vision, goals, and end performance improvements the e-business BPR process will yield. The teams would also communicate the roles and responsibilities each user has in helping to achieve the vision and would identify, for recognition and reward, those units and users that effectively contribute to the transformation process.

The teams will also be responsible for training users on each subsystem to help make the BPR transformation as smooth as possible. The teams will also be the means by which the Senior Executive will become aware of implementation, technical, or business issues that need resolution.

The Senior Executive should establish these teams as each subsystem is incrementally deployed to the user community.

ANNEX A

TERMS OF REFERENCE

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON DC 20301-3010

ACQUISITION AND TECHNOLOGY

19 DEC 2000

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference – Defense Science Board Task Force on The Impact of e-Commerce on DoD Acquisition Processes

You are requested to establish a Defense Science Board Task Force on the Impact of e-Commerce on DoD Acquisition Processes. The purpose of this study is to review the DoD's current implementation status of e-commerce tools and make any appropriate recommendations that enhance this opportunity for cost reduction, capital and manpower efficiency.

The private sector business to business procurement and supply chain capability is moving rapidly in developing in-house systems for corporations to manage their procurement needs and to streamline their supply chain process which significantly improves their costs and cash flow. At the same time, companies are forming consortiums, and venture capital is investing in vertical and horizontal market places on a global scale to improve procurement efficiency.

The Department of Defense has one of the largest acquisition systems in the world for both goods and services. These new procurement approaches offer DoD a significant opportunity for both cost and manpower savings. The DoD has made a strong effort to capitalize on these new approaches and information technology.

The task force will be co-sponsored by the USD(AT&L) and the Director of Defense Procurement. Dr. Ron Kerber and Dr. Mike Frankel will co-chair the Task Force. COL Lyndi Balven will be the Task Force Executive Secretary. Mr. Bob Jamison will be the Defense Science Board Secretariat Representative.

The Task Force will be operated in accordance with the provisions of P.L. 92-463, the "Federal Advisory Committee Act," and DoD Directive 5105.4, the "DoD Federal Advisory Committee Management Program." It is not anticipated that this Task Force will need to go into any "particular matters" within the meaning of Section 208 of Title 18, U.S. Code, nor will it cause any member to be placed in the position of acting as a procurement official

J. S. Gansler

ANNEX B

BIOGRAPHIES

DR. MICHAEL S. FRANKEL (Co-chair) is vice president and director of SRI International's Information, Telecommunications, and Automation Division. Dr. Frankel's expertise is in survivable command, control, and communication system design and implementation; radio frequency systems design and analysis; remote sensing; and data acquisition, reduction, and analysis. Dr. Frankel is a Fellow of the IEEE and a member of the Cosmos Club, AFCEA, ADPA, Sigma XI, and Tau Beta Pi. He was a member of the Army Science Board from 1992 through 1998, and served as its chair from 1996-98. When he left the Army Science Board, the U.S. Army awarded Dr. Michael Frankel the Distinguished Civilian Service Award. Dr. Frankel is currently a member of the Defense Science Board. He is the author or co-author of seventy SRI technical reports, over twenty publications in technical journals, and two textbook manuscripts. Dr. Frankel holds patent disclosures on passive satellite systems, a passive frequency-steerable microwave repeater system, an emitter location system as well as one on the TeleEducation concept, and a passive, high-gain, frequency-steerable satellite repeater.

DR. RONALD L. KERBER (Co-chair) is a senior operations executive with a record of leadership and success in developing and growing domestic and global businesses. Responsible for innovation, cost reduction and profitability results in diverse industries from defense/aerospace to consumer products with global leadership experience in Europe, Asia, Latin America and North America. Dr. Kerber spent 10 years at Whirlpool Corporation as Executive Vice President, Member of the Executive Committee, and Chief Technology Officer, where he was responsible for the global microwave oven, air conditioner and compressor businesses, global product development, global procurement and technology and led development of the corporation's e-business strategy. From 1988-1991, Dr. Kerber served as Vice President of Advanced Technology and Business Development at McDonnell Douglas Corporation. Prior to that, he served as Deputy Undersecretary of Defense for Research and Advanced Technology and a program manager at The Defense Advanced Research Projects Agency. From 1969-1983, Dr. Kerber was at Michigan State University where he last served as Professor of Electrical and Mechanical Engineering and Associate Dean of Graduate Studies and Research. From 1971-72, Dr. Kerber was a Member of the Technical Staff of The Aerospace Corporation. Dr. Kerber received his B.S. degree from Purdue University and his M.S. and Ph.D. degrees from the California Institute of Technology all in Engineering Science. He is currently President of SBDC Corporation a small consulting firm and a Member of the Department of Defense Science Board.

DR. WILLIAM G. HOWARD, JR. is currently an independent consultant and senior fellow, National Academy of Engineering. He is a former senior vice president and director of research and development, Motorola, Inc. Prior to that he was an assistant professor of electrical engineering and computer sciences, University of California, Berkeley.

Dr. Howard was elected to the National Academy of Engineering in 1985; he is currently a fellow of IEEE; and Fellow of the American Association for the Advancement of Science (AAAS); He was also a National Science Foundation graduate fellow from 1964 to 1967. He is a member of the IEEE, AAAS, Sigma Xi, Tau Beta Pi, Eta Kappa Nu, and Phi Kappa Phi.

He is the author of *Basic Integrated Circuits Engineering* (with D.J. Hamilton), McGraw-Hill Book Company, 1967, and *Profiting from Innovation* (with Bruce R. Guile), The Free Press, 1992.

KENNETH A. MEDLIN, SR., Vice President, Connexion[SM] by Boeing, oversees the deployment of communication and network systems, high-bandwidth satellite communication services and global network management systems. Previously, Mr. Medlin served as vice president and general manager of Boeing Information and Communications Systems, where he was responsible for military information and surveillance systems, international communications systems, and the company's satellite manufacturing and ground control systems programs. Before joining Boeing, Medlin served as vice president and general manager of the Communications Systems Division and the North American Aviation Modification Division of Rockwell Aerospace and Defense. Medlin served 16 years with the Rockwell Collins division, holding a number of management and executive positions encompassing all product areas. He joined Rockwell in 1977 as program manager of the Global Positioning System Full-Scale Development program. He graduated from the U.S. Air Force Academy in 1969.

DR. DANIEL G. MCNICHOLL, Chief Information Officer for General Motors North America (GMNA), is responsible for all information technology and systems in areas including such areas as engineering, manufacturing, sales, marketing, and business services. His other duties include leading the IT organization to a position where technology can bring a competitive advantage to GM, using technology to reduce the time it takes to develop products and bring them to market, developing more sophisticated systems to track and analyze customer behavior, and taking advantage of advances in electronic commerce and the Internet.

Dr. McNicholl joined GM from Whirlpool, where he was the vice president and general manager of the company's Global Air Treatment Business. He was responsible for Whirlpool's air conditioning and dehumidifier business worldwide, and previously served as Whirlpool's vice president of information systems.

JACK PELLICCI, BRIGADIER GENERAL USA (Ret) leads the Global Business Development Group for Oracle Service Industries (OSI), where he is responsible for generating new business for six industries: public sector, financial services, communications, utilities, health and higher education. The group supports sales and consulting organizations to position integrated e-business solution suites with end customers and partners; facilitates the sharing of repeatable e-business solutions; provides global training and expertise through a network of knowledge to share best business practices, references, and global intellectual capital; and maintains relationships with the business development groups of key integrators and the major management consulting companies.

Mr. Pellicci joined Oracle in 1992 after retiring from the U.S. Army as a Brigadier General with 30 years of experience in leading and training people, managing technology, and improving productivity in command and staff assignments in both peace and war.

Before joining Oracle, Pellicci was the commanding general of the Personnel Information Systems Command, where he led a large work force of government employees and civilian contractors to provide information technology (IT) support to 1.5 million Army soldiers and civilians. He also served as the chief information officer of the Total Army Personnel Community and was responsible for the integration of IT initiatives for the active, reserve, National Guard and civilian components. As the Deputy and then acting Director of Training for the U. S. Army he was responsible for policy and funding for technology-based training and education.

As a recipient of the *Government Computer News* award for Excellence in Information Resources Management, he also won a *Federal Computer Week* Federal 100 award.

For the past 5 years he has been a member of the Board of Directors of the Open Geospatial Consortium (OGC), a worldwide organization leading the initiative for interoperability of geospatial information and location based services. He also serves as a director on the Boards of OGETA Services, the Fairfax County Chamber of Commerce, the United Services Organization (USO) of Metropolitan Washington; and is a corporate fellow of the National Governors Association (NGA).

WILLIAM A. ROBERTS, III, Partner and Co-chair of the Wiley, Rein & Fielding LLP law firm's government contracts practice, serves as attorney-advisor, Navy Regional Procurement Center. He also was an assistant to the General Counsel of the U.S. Navy and former chief counsel of Wang Laboratories Federal Services Division.

He is a prolific author and frequent lecturer on issues relating to government contracts including electronic products and delivery for the government, privatization and outsourcing, and recent developments in e-commerce. He serves as co-chair, Privatization and Outsourcing Committee, American Bar Association Section of Public Contract Law; and is a member of the Defense Science Board Task Force on The Impact of e-Commerce on DoD Acquisition Processes. He is a member of the District of Columbia and Iowa Bars.

LT. GENERAL (Ret.) DAVID J. TEAL is an associate partner, business development, in the U.S. Government Defense Practice of Accenture's (previously Andersen Consulting) Reston, Virginia office. He obtained a B.S. in Engineering from The United States Military Academy (West Point) in 1961 and an M.S. in Astronautics from the Air Force Institute of Technology in 1965. In his 31 years in the Army and Air Force, commanding units in Korea and Germany, planning for the Air Force in Space, developing/fielding the fighters for the Air Force during the 70s and 80s, serving as the Senior Military Assistant to the Under Secretary of Defense, Acquisition and serving as the Vice Commander, Air Force Systems Command. As Vice Commander, he played a key role in combining Air Force Systems Command and Logistics Command, over 130,000 people, into Air Materiel Command.

KENNETH S. THOMPSON, Chief Operating Officer of e-STEEL, is a seasoned executive in business strategy and supply chain management. Mr. Thompson joined e-STEEL following nine highly successful years with Maryland-based Manugistics Group Inc., where he was executive vice president. Manugistics is the leading provider of eBusiness solutions that enable intelligent decisions across trading networks. Mr. Thompson joined Manugistics when the software start-up company he helped launch during his MBA at The Wharton School was acquired by the company. He began his career as an engineer for the Exxon Corporation.

ANNEX C

AGENDAS

Agenda

Defense Science Board e-Commerce Study

Meeting on 27 March 2001

0830 – 0845	Introduction of Board Members	Co-Chairs
0845 – 0915	Administration Matters	Bob Jamison/DSB
0915 – 1030	DoD's e-business Framework- The Way Ahead	Paul Grant/C3I
1030 – 1045	Conflict of Interest Presentation	DSB Secretariat
1045 – 1145	Joint Electronic Commerce Overview & EC Initiatives	Scottie Knott/Dir, JECPO
1145 – 1300	Lunch & Executive Session Sponsor Perspective	Board Members Deidre Lee, Director Defense Procurement
1300 - 1345	Supply Chain Management	Alan Beckett / Zack Goldstein USD(AT&L)
1345 - 1445	DoD's To Be End-to-End Procurement Model	Mike Williams CIO DCMA
1445 – 1500	Break	
1500 – 1545	DFAS Initiatives	Bruce Johnson HQ DFAS
1545 – 1630	Standard Procurement System	Gary Thurston, SPS PM
1630 – 1700	Wrap Up & Next Steps	DSB Members

Agenda

Defense Science Board e-Business Study

Meeting on 1 & 2 May 2001

1 May 2001		
0830 – 0930	Defense Medical Logistics Standard Support Program (DMLSS)	Col Dan McGee OASD (HA)/TMA
0930 - 1030	Transportation Policy Defense Travel System Transportation Payment Initiative	Ken Stombaugh ADUSD (TP)
1030-1045	Break	
1045 – 1145	Defense Logistics Agency Business Systems Modernization	Dave Falvey
1145 - 1315	Lunch & Executive Session	Task Force Members
1315 - 1415	Personnel & Readiness Defense Commissary Agency	Rose Parks CIO
1415 – 1430	Break	
1430 – 1630	IBM Assessment of DoD's EB Management Framework	Angie Messer
	GM Brief	Dan McNicholl
1630 - 1645	Wrap Up	Co Chairs & Members
2 May 2001		
0830 – 0930	Accenture Business Systems	Eric Stange Global Defense Partner
0930 - 1030	Oracle Presentation	Tim Hoechst Oracle CTO
1030 – 1045	Break	
1045 – 1145	Booz Allen Hamilton	Gene Zapfel

1145 – 1200 Co-Chairs Wrap Up/Next Steps

Agenda

Defense Science Board e-Business Study

Meeting on 5 & 6 June 2001

5 June 2001

0830 – 0930	Standard Procurement System (SPS)	Gary Thurston DCMA Joint Program Office
0930 - 1030	DoD Accounting Requirements	Ed Harris DFAS
1030-1045	Break	
1045 – 1145	DFAS Business Systems	Bruce Johnson
1145 - 1315	Lunch & Executive Session	Task Force Members
1315 - 1445	AF Perspective Business & Info Mgmt	Mr. John Gilligan Principal Dep Asst. SECAF
1445 – 1500	Break	
1500 – 1600	Navy Perspective	Dave Wennergren Deputy CIO for EB
1600 – 1645	Logistics Perspective on ERPs	Mr. Goldstein Logistics Systems Modernization Office
1645- 1700	Wrap Up	Co-Chairs & Members

6 June 2001

0830 – 0930	Defense Travel System (DTS) ADUSD Transportation Policy	Dick McLane
0930 – 0945	Break	
0945 – 1115	Defense Reform	Mary Margaret Evans

1115 – 1145	Co-Chairs Wrap Up	Dep Dir, DRO

Agenda

Defense Science Board e-Business Study

Meeting on 26 & 27 June 2001

26 June 2001

0830 – 0930	Discussions	All
0930 - 1030	Insight into the DSB Logistics Transformation Task Force	Bill Howard
1030-1045	Break	
1045 – 1145	Global Information GRID Architecture	Mr. Osterholz Dir, Architecture & Interoperability
1145 - 1215	Executive Session	Task Force Members
1215 – 1315	Working Lunch & Card Government Purchase Brief	Bruce Sullivan Program Manager
1315 – 1430	Discussions	Task Force Members
1445 – 1500	Break	
1500 – 1600	Army Perspective	Dr. Linda Dean Director, Electronic Commerce Office for Army
1600 - 1630	Wrap Up/Co-Chairs	

27 June 2001

0830 – 0930	JFMIP	Karen Alderman Executive Director JFMIP
0930 – 1030	DIHMRS	Col Sweeney
1030 – 1045	Break	

1045 – 1145	DON eBusiness Operations	Karen Gadbois
1145 – 1200	Wrap Up	

Agenda

Defense Science Board e-Business Study

Meeting on 24 & 25 July 2001

24 July 2001

0830 – 1130	Discussions	All
1130 – 1200	Web Invoicing System (WINS)	Diana Buttrey (DFAS)
1200 – 1330	Lunch	All
1330 – 1400	Wide Area Work Flow (WAWF)	Sherrie Chubin (DCMA)
1400 – 1500	Military Sealift Command	Adm. Holder
1500 – 1515	Break	
1515 – 1630	Discussions	All

25 July 2001

0830 – 0930	Legislative Perspective	Melissa Wojciak
0930 – 0945	Break	
0945 – 1200	Discussions	All

ANNEX D

RUMSFELD & ZAKHEIM MEMOS

THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

JUL 19 2001

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
DIRECTOR, OPERATIONAL TEST AND EVALUATION
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Financial Management Information within the Department of Defense

One of my highest priorities is to have reliable, accurate and timely financial management information upon which to make the most effective business decisions. Because we do not always have that information, we must change the Department's business operations and systems.

The Department's business activities include financial and nonfinancial operations and systems. Nonfinancial business operations and systems include those that support the acquisition, medical, transportation, property, inventory, supply, and personnel communities, as well as other communities. Currently, the Department's financial and nonfinancial operations and systems do not work effectively together to produce the most desirable financial management information. Correcting this deficiency is everyone's responsibility.

Toward this end, I hereby establish a Department-wide Financial Management Modernization Program and direct the following:

U10983 /01

- The Under Secretary of Defense (Comptroller), in coordination with the Under Secretary of Defense for Acquisition, Technology and Logistics and the Chief Information Officer, shall provide policy direction and oversee the execution of all Financial Management Modernization Program efforts.

- A Program Management Office shall be established and shall report to the Under Secretary of Defense (Comptroller). The Program Management Office shall develop a DoD-wide blueprint—an Enterprise Architecture that is consistent with the Department of Defense Chief Information Officer's Information Technology architecture—that prescribes how the Department's financial and nonfinancial feeder systems and business processes will interact. The Program Management Office also shall be responsible within the Defense Acquisition System for control and oversight of systems development, acquisition, upgrade, deployment, and other changes for all financial management systems and related nonfinancial business systems, to include legacy systems. In addition, the Program Management Office shall perform such other Department-wide Financial Management Modernization Program-related efforts as may be directed by the Under Secretary of Defense (Comptroller), in coordination with the Under Secretary of Defense for Acquisition, Technology and Logistics and the Chief Information Officer.

- The Secretaries of the Military Departments and the Directors of the Defense Agencies shall be accountable to me for the results of their Component's business operations and financial management systems. The Under Secretary of Defense (Comptroller) is responsible for ensuring we meet the objectives of this memorandum and for the overall direction of our financial management reforms.

Modernizing our business operations and systems is a Department-wide priority, and will need leadership at every level. The Under Secretary of Defense (Comptroller) is available as needed to help Components, Services, and Defense Agencies in this effort.

UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

COMPTROLLER

OCT 12 2001

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING
ASSISTANT SECRETARIES OF DEFENSE
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
DIRECTOR, OPERATIONAL TEST AND EVALUATION
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DEPARTMENT OF DEFENSE FIELD ACTIVITIES

SUBJECT: Defense Financial Management Modernization Program – System Initiatives

The Secretary of Defense recently established the Financial Management Modernization Program to provide policy direction and oversight for all financial management modernization efforts. While prudent investments in operational, developmental, and new system initiatives are important to maintain and improve the Department's business operations, the overall impact on the Department's pending financial management enterprise architecture must first be assessed. Therefore, until the architecture is developed to guide our modernization efforts, all DoD Components must control their financial system and related non-financial (feeder) system investments as described below.

For currently operational systems, a DoD Component Head may approve and fund changes that address priority 1 or 2 core mission issues only. This approval should reflect coordination from both the Component's financial management senior proponent and Chief Information Officer (CIO). System changes to satisfy a financial compliance requirement alone should not be considered a priority 1 or 2 issue. Any system change that does not meet this criteria may not be funded or implemented without my prior written approval.

Issue prioritization is defined by the Institute of Electrical and Electronics Engineers (IEEE) 12207.2, "Standard for Information Technology—Software Life Cycle Processes." A priority 1 problem is one which would (a) prevent the accomplishment of an essential capability, or (b) jeopardize safety, security, or other requirement designated "critical." A priority 2 problem is one which would (a) adversely affect the accomplishment of an essential capability and no work-around solution is known, or (b) adversely affect technical, cost, or schedule risks to the project or to life cycle support of the system, and no work-around solution is known.

Systems currently under development may be continued up to, and including, completion of the pilot/prototype evaluation at which point the results of an independent third-party assessment must be presented to me in a formal brief. Under no circumstance should Components allow any system initiative to enter into production or be deployed without my written concurrence.

New system initiatives (initiatives which have not received a Milestone A decision prior to the release of this memorandum), regardless of their investment threshold, must complete the following pre-Milestone A requirements: Business Process Review and Improvement, Mission Need Statement and Trade-off Studies. The results of these efforts must be presented to me in a formal brief. Under no circumstance should a DoD Component request approval for any new initiative to enter Milestone A without my written concurrence.

This guidance is effective immediately and remains in effect until the Financial Management Enterprise Architecture is developed and follow-on guidance released. All system investment approval requests and related documentation must be sent to the Office of the Under Secretary of Defense (Comptroller), Financial Management Modernization Task Force, Pentagon Room 3A731, Washington, DC 20301-1100.

The requirements addressed above are in addition to, and not in lieu of, any other defense acquisition policy and Clinger-Cohen Act certification requirements. My point of contact for this action is Ms. Catherine Santana. She may be reached at (703) 692-5001, or by e-mail at santanac@osd.pentagon.mil.

Dov S. Zakheim

UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

COMPTROLLER

OCT 12 2001

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY, AND LOGISTICS)

SUBJECT: Defense Financial Management Modernization Program – System Initiatives

I appreciate your support of my recent policy directives to ensure that system investments are consist with our Financial Management Modernization Program objectives. I am concerned about the comments pertaining to your business systems. I would like to emphasize that your participation in all aspects of the review and approval process is critical. However, I must also stress that under no circumstance should we exempt any system from the prescribed review and approval process.

As directed, developmental initiatives, such as the Defense Logistics Agency's Business Systems Modernization program may not deploy without review and approval as outlined in my August 21 memorandum. Additionally, for operational systems such as the Standard Procurement System priority assessments of individual system change requests are required. System-wide priority assessments are not permitted.

My point of contact for this action is Ms. Catherine Santana. She may be reached at (703) 692-5001, or by e-mail at santanac@osd.pentagon.mil.

Dov S. Zakheim

ANNEX E

RUMSFELD SPEECH

10 SEPTEMBER 01

DOD Acquisition and Logistics Excellence Week Kickoff—Bureaucracy to Battlefield

Remarks as Delivered by Secretary of Defense Donald H. Rumsfeld, The Pentagon , Monday, 10 September 2001.

[Under Secretary of Defense (Acquisition, Technology, and Logistics)] Pete Aldridge, Service Secretaries, distinguished officials of the Department of Defense. [Vice Chairman of the Joint Chiefs of Staff] General [Richard] Myers, thank you very much for those kind words.

The topic today is an adversary that poses a threat, a serious threat, to the security of the United States of America. This adversary is one of the world's last bastions of central planning. It governs by dictating five-year plans. From a single capital, it attempts to impose its demands across time zones, continents, oceans and beyond. With brutal consistency, it stifles free thought and crushes new ideas. It disrupts the defense of the United States and places the lives of men and women in uniform at risk.

Perhaps this adversary sounds like the former Soviet Union, but that enemy is gone: our foes are more subtle and implacable today. You may think I'm describing one of the last decrepit dictators of the world. But their day, too, is almost past, and they cannot match the strength and size of this adversary.

The adversary's closer to home. It's the Pentagon bureaucracy. Not the people, but the processes. Not the civilians, but the systems. Not the men and women in uniform, but the uniformity of thought and action that we too often impose on them.

In this building, despite this era of scarce resources taxed by mounting threats, money disappears into duplicative duties and bloated bureaucracy—not because of greed, but gridlock. Innovation is stifled—not by ill intent but by institutional inertia.

Just as we must transform America's military capability to meet changing threats, we must transform the way the Department works and what it works on. We must build a Department where each of the dedicated people here can apply their immense talents to defend America, where they have the resources, information and freedom to perform.

Our challenge is to transform not just the way we deter and defend, but the way we conduct our daily business. Let's make no mistake: The modernization of the Department of Defense is a matter of some urgency. In fact, it could be said that it's a matter of life and death, ultimately, every American's.

A new idea ignored may be the next threat overlooked. A person employed in a redundant task is one who could be countering terrorism or nuclear proliferation. Every dollar squandered on waste is one denied to the warfighter. That's why we're here today challenging us all to wage an all-out campaign to shift Pentagon's resources from bureaucracy to the battlefield, from tail to the tooth.

We know the adversary. We know the threat. And with the same firmness of purpose that any effort against a determined adversary demands, we must get at it and stay at it.

Some might ask, how in the world could the Secretary of Defense attack the Pentagon in front of

its people? To them I reply, I have no desire to attack the Pentagon; I want to liberate it. We need to save it from itself.

The men and women of this department, civilian and military, are our allies, not our enemies. They too are fed up with bureaucracy, they too live with frustrations. I hear it every day. And I'll bet a dollar to a dime that they too want to fix it. In fact, I bet they even know how to fix it, and if asked, will get about the task of fixing it. And I'm asking.

They know the taxpayers deserve better. Every dollar we spend was entrusted to us by a taxpayer who earned it by creating something of value with sweat and skill—a cashier in Chicago, a waitress in San Francisco. An average American family works an entire year to generate $6,000 in income taxes. Here we spill many times that amount every hour by duplication and by inattention.

That's wrong. It's wrong because national defense depends on public trust, and trust, in turn, hinges on respect for the hardworking people of America and the tax dollars they earn. We need to protect them and their efforts.

Waste drains resources from training and tanks, from infrastructure and intelligence, from helicopters and housing. Outdated systems crush ideas that could save a life. Redundant processes prevent us from adapting to evolving threats with the speed and agility that today's world demands.

Above all, the shift from bureaucracy to the battlefield is a matter of national security. In this period of limited funds, we need every nickel, every good idea, every innovation, every effort to help modernize and transform the U.S. military.

We must change for a simple reason—the world has—and we have not yet changed sufficiently. The clearest and most important transformation is from a bipolar Cold War world where threats were visible and predictable, to one in which they arise from multiple sources, most of which are difficult to anticipate, and many of which are impossible even to know today.

Let there be no question: the 2.7 million people who wear our country's uniform active, Guard and Reserve—and the close to 700,000 more who support them in civilian attire, comprise the finest military in the history of the world. They stand ready to face down any threat, anytime, anywhere. But we must do more.

We must develop and build weapons to deter those new threats. We must rebuild our infrastructure, which is in a very serious state of disrepair. And we must assure that the noble cause of military service remains the high calling that will attract the very best.

All this costs money. It costs more than we have. It demands agility—more than today's bureaucracy allows. And that means we must recognize another transformation: the revolution in management, technology and business practices. Successful modern businesses are leaner and less hierarchical than ever before. They reward innovation and they share information. They have to be nimble in the face of rapid change or they die. Business enterprises die if they fail to adapt, and the fact that they can fail and die is what provides the incentive to survive. But governments can't die, so we need to find other incentives for bureaucracy to adapt and improve.

The technology revolution has transformed organizations across the private sector, but not ours, not fully, not yet. We are, as they say, tangled in our anchor chain. Our financial systems are decades

old. According to some estimates, we cannot track $2.3 trillion in transactions. We cannot share information from floor to floor in this building because it's stored on dozens of technological systems that are inaccessible or incompatible.

We maintain 20 to 25 percent more base infrastructure than we need to support our forces, at an annual waste to taxpayers of some $3 billion to $4 billion. Fully half of our resources go to infrastructure and overhead, and in addition to draining resources from warfighting, these costly and outdated systems, procedures and programs stifle innovation as well. A new idea must often survive the gauntlet of some 17 levels of bureaucracy to make it from a line officer's to my desk. I have too much respect for a line officer to believe that we need 17 layers between us.

Our business processes and regulations seems to be engineered to prevent any mistake, and by so doing, they discourage any risk. But ours is a nation born of ideas and raised on improbability, and risk aversion is not America's ethic, and more important, it must not be ours.

Those who fear danger do not volunteer to storm beaches and take hills, sail the seas, and conquer the skies. Now we must free you to take some of the same thoughtful, reasoned risks in the bureaucracy that the men and women in uniform do in battle.

To that end, we're announcing today a series of steps the Department of Defense will take to shift our focus and our resources from bureaucracy to battlefield, from tail to tooth.

Today's announcements are only the first of many. We will launch others ourselves, and we will ask Congress for legislative help as well. We have, for example, asked Congress for permission to begin the process of closing excess bases and consolidating the B-1 bomber force.

But we have the ability—and, therefore, the responsibility—to reduce waste and improve operational efficiency on our own. Already we have made some progress. We've eliminated some 31 of the 72 acquisition-related advisory boards. We now budget based on realistic estimates. We're improving the acquisition process. We're investing $400 million in public-private partnerships for military housing. Many utility services to military installations will be privatized.

We're tightening the requirements for other government agencies to reimburse us for detailees, and we're reviewing to see whether we should suspend assignments where detailees are not fully reimbursed.

We have committed $100 million for financial modernization, and we're establishing a Defense Business Board to tap outside expertise as we move to improve the department's business practices.

We can be proud of this progress but certainly not satisfied.

To succeed, this effort demands personal and sustained attention at the highest levels of the Department. Therefore, it will be guided by the Senior Executive Council including Under Secretary Pete Aldridge, Army Secretary Thomas White, Navy Secretary Gordon England, and Air Force Secretary Jim Roche. These leaders are experienced, talented, and determined. I am delighted they are on our team. I would not want to try to stop them from what they came into this Department to do. I expect them to be enormously successful, as they have in their other endeavors throughout their lives.

Because the Department must respond quickly to changing threats, we're overhauling the 40-year-

old Planning, Programming, and Budgeting System, or PPBS, the annual process of forecasting threats for the next several years, matching threats to programs and programs to budgets.

It's really a relic of the Cold War, a holdover from the days when it was possible to forecast threats for the next several years because we knew who would be threatening us for the next several decades. It's also a relic of the Cold War in another regard. PPBS is, I suppose, one of the last vestiges of central panning on Earth. We've combined the programming and budgeting phases to reduce duplicative work and speed decision-making. The streamlined process that should result will be quicker and cheaper and more flexible.

In order to make decisions more quickly, we must slash duplication and encourage cooperation. Currently the Departments of the Army, the Air Force and the Navy operate separate but parallel staffs for their civilian and uniformed chiefs. These staffs largely work the same issues and perform the same functions. Secretaries White and Roach will soon announce plans for realigning the Departments to support information sharing, speed decision-making, integrate Reserve and Guard headquarters into Department headquarters. Secretary England is engaging a broad agenda of change in the Department of Navy as well.

It's time to start asking tough questions about redundant staffs. Let me give you an example. There are dozens of offices of general counsel scattered throughout the Department. Each service has one. Every agency does, too. So do the Joint Chiefs. We have so many general counsel offices that we actually have another general counsel's office whose only job is to coordinate all those general counsels. [Laughter.] You think I'm kidding. [Laughs.] [Laughter.]

The same could be said of a variety of other functions, from public affairs to legislative affairs. Now, maybe we need many of them, but I have a strong suspicion that we need fewer than we have, and we're going to take a good, hard look and find out.

Department headquarters are hardly the only scenes of redundant bureaucracy. Health care is another. Each service branch has its own surgeon general and medical operation. At the department level, four different agencies claim some degree of control over the delivery of military health care.

Consider this snapshot. One out of every five officers in the United States Navy is a physician. That's not to single out the Navy or to suggest that too many doctors wear uniforms. The Navy and Marine Corps' forward deployments generate unique medical needs. Rather, it's to say that some of those needs, especially where they may involve general practice or specialties unrelated to combat, might be more efficiently delivered by the private sector. And all of them would likely be more efficiently delivered with fewer overlapping bureaucracies.

We've begun to consolidate health care delivery under our TriCare management activity. Over the next two years we will reform the procurement of care from the private sector. I've asked the military departments and Personnel and Readiness organization to complete a revamping of the military health system by fiscal year 2003.

DOD also has three exchange systems and a separate commissary system, all providing similar goods and services. The Congressional Budget Office estimates that consolidating them could save some $300 million. I've asked that we promptly explore the use of tools, like consolidation and

contracting, to ensure our uniformed personnel and their families get the very best.

Congress has mandated that we reduce headquarter staffs by 15 percent by fiscal year 2003. I have ordered at least an overall 15 percent reduction from fiscal year 1999 levels in the numerous headquarter staffs overall throughout the department, from the Pentagon to the CINCs to every base headquarters building in the world. It's not just the law, it's a good idea, and we're going to get it done.

To transform the Department, we must look outside this building as well. Consequently, the Senior Executive Council will scour the Department for functions that could be performed better and more cheaply through commercial outsourcing. Here, too, we must ask tough questions. Here are a few:

Why is DOD one of the last organizations around that still cuts its own checks? When an entire industry exists to run warehouses efficiently, why do we own and operate so many of our own? At bases around the world, why do we pick up our own garbage and mop our own floors, rather than contracting services out, as many businesses do? And surely we can outsource more computer systems support.

Maybe we need agencies for some of those functions. Indeed, I know we do. Perhaps a public-private partnership would make sense for others, and I don't doubt at least a few could be outsized outsourced altogether.

Like the private sector's best-in-class companies, DOD should aim for excellence in functions that are either directly related to warfighting or must be performed by the Department. But in all other cases, we should seek suppliers who can provide these non-core activities efficiently and effectively. The Senior Executive Council will begin a review of the Defense Finance and Accounting Service, the Defense Logistics Agency and Defense Information Service Agency.

Harnessing the expertise of the private sector is about something more, however. The Department of Defense was once an engine of technological innovation. Today the private sector is leading the way in many respects, yet DOD makes it harder and harder for us to keep up and for those who do keep up to do business with the Department. Consider that it takes today twice as long as it did in 1975 to produce a new weapon system, at a time when new generations of technology are churned out every 18 to 24 months.

That virtually guarantees that weapon systems are at least a generation old technologically the day they're deployed. Meanwhile, our process and regulations have become so burdensome that many businesses have simply chosen not to do business with the Department of Defense.

To transform the Department, we must take advantage of the private sector's expertise. I've asked the members of the Senior Executive Council to streamline the acquisition process and spur innovation in our traditional supplier base.

Finally, and perhaps most important, we must forge a new compact with war-fighters and those who support them, one that honors their service and understands their needs and encourages them to make national defense a life-long career.

Many of the skills we most require are also in high demand in the private sector, as all of you know. To compete, we need to bring the Department of Defense the human resources practices that

have already transformed the private sector. Our compact with war fighters will address quality of life issues—like improvements in health care and housing—where we will make more use of public-private partnerships, and by working to reduce the amount of time they must spend away from their families on deployment.

No business I have known could survive under the policies we apply to our uniformed personnel. We encourage, and often force, servicemen and -women and retire after 20 years in service, after we've spent millions of dollars to train them and when, still in their 40s, they were at the peak of their talents and skills. Because our objective is to produce generalists, officers are most often rotated out of assignments every 12 to 24 months, giving them a flavor of all things but too often making them experts at none. Both policies exact a toll in institutional memory, in skill and in combat readiness. To that end, we intend to submit revised personnel legislation to the Congress at the beginning of fiscal year 2003.

If a shortcoming on the uniformed side is moving personnel too much, on the civilian end we map hardly any career path at all. There, too, we must employ the tools of modern business -- more flexible compensation packages, modern recruiting techniques and better training.

Let me conclude with this note. Some may ask, defensively so, will this war on bureaucracy succeed where others have failed? To that I offer three replies. First is the acknowledgement, indeed this caution: Change is hard. It's hard for some to bear, and it's hard for all of us to achieve.

There's a myth, sort of a legend, that money enters this building and disappears, like a bright light into a black hole, never to be seen again. In truth, there is a real person at the other end of every dollar, a real person who's in charge of every domain, and that means that there will be real consequences from, and real resistance to, fundamental change. We will not complete this work in one year, or five years, or even eight years. An institution built with trillions of dollars over decades of time does not turn on a dime. Some say it's like turning a battleship. I suspect it's more difficult.

That's the disadvantage of size. But here's the upside. In an institution this large, a little bit of change goes a very long way. If we can save just 5 percent of one year's budget, and I have never seen save 5 percent of its budget, we would free up some $15 billion to $18 billion, to be transferred from bureaucracy to the battlefield, from tail to tooth. Even if Congress provides us every nickel of our fiscal year '02 budget, we will still need these extra savings to put towards transformation in this Department.

Second, this effort is structurally different from any that preceded it, I suspect. It begins with the personal endorsement, in fact the mandate, of the President of the United States. President Bush recently released a management agenda that says that performance, not promises, will count. He is personally engaged and aware of the effort that all of you are engaged in. The battle against a stifling bureaucracy is also a personal priority for me and for the Service Secretaries, one that will, through the Senior Executive Council, receive the sustained attention at the highest levels of this Department. We have brought people on board who have driven similar change in the private sector. We intend to do so here. We will report publicly on our progress. The old adage that you get what you inspect, not what you expect, or put differently, that what you measure improves, is true. It is powerful, and we will be measuring.

Our strongest allies are the people of this department, and to them I say we need your creativity, we need your energy. If you have ideas or observations for shifting the department's resources from tail to tooth, we welcome them. In fact, we've set up a dedicated e- mail address: www.tailtotooth@osd.pentagon.mil where anyone can send in any thoughts they have.

Finally, this effort will succeed because it must. We really have no choice. It is not, in the end, about business practices, nor is the goal to improve figures on the bottom line. It's really about the security of the United States of America. And let there be no mistake, it is a matter of life and death. Our job is defending America, and if we cannot change the way we do business, then we cannot do our job well, and we must. So today we declare war on bureaucracy, not people, but processes, a campaign to shift Pentagon resources from the tail to the tooth. All hands will be required, and it will take the best of all of us.

Now, like you, I've read that there are those who will oppose our every effort to save taxpayers' money and to strengthen the tooth-to-tail ratio. Well, fine, if there's to be a struggle, so be it. But keep in mind the story about the donkey, the burro, and the ass. The man and the boy were walking down the street with the donkey and people looked and laughed at them and said, "Isn't that foolish they have a donkey and no one rides it." So the man said to the boy, "Get on the donkey; we don't want those people to think we're foolish." So they went down the road and people looked at the boy on the donkey and the man walking alongside—"Isn't that terrible, that young boy is riding the donkey and the man's walking." So they changed places, went down the road, people looked and said, "Isn't that terrible, that strong man is up there on the donkey and making the little boy walk." So they both got up on the donkey, the donkey became exhausted, came to a bridge, fell in the river and drowned. And of course the moral of the story is, if you try to please everybody, you're going to lose your donkey. [Laughter.]

So as we all remember that if you do something, somebody's not going to like it, so be it. Our assignment is not to try to please everybody. This is not just about money. It's not about waste. It's about our responsibility to the men and women in uniform who put their lives at risk. We owe them the best training and the best equipment, and we need the resources to provide that. It's about respect for taxpayers' dollars. A cab driver in New York City ought to be able to feel confident that we care about those dollars.

It's about professionalism, and it's also about our respect for ourselves, about how we feel about seeing GAO reports describing waste and mismanagement and money down a rat hole.

We need your help. I ask for your help. I thank all of you who are already helping. I have confidence that we can do it. It's going to be hard. There will be rough times. But it's also the best part of life to be engaged in doing something worthwhile.

Every person within earshot wants to be a part of a proud organization, an organization that cares about excellence in everything it does. I know it. You know it. Let's get about it.

Thank you very much. [Applause.]

ANNEX F

ACRONYMS

ASD/C3I	Assistant Secretary of Defense for Command, Control and Communications
BoD	Board of Directors
BPR	Business Process Reengineering
CCR	Central Contractor Registration
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIO	Chief Information Officer
COTS	Commercial Off The Shelf
DEBX	DoD E-Business eXchange
DCD	DFAS Corporate Database
DCMA	Defense Contract Management Agency
DCW	DFAS Corporate Warehouse
DepSecDef	Deputy Secretary of Defense
DDR&E	Director Defense Research and Engineering
DFAR	Defense Federal Acquisition Regulations
DFAS	Defense Finance and Accounting System
DIMHRS	Defense Integrated Military Human Resources System
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DoD	Department of Defense
DPPS	Defense Procurement Payment System
DSB	Defense Science Board
DSDS	Defense Standard Disbursing System
EB	e-business
e-business	Electronic business
EC	Electronic commerce
ECRC	Electronic commerce resource centers
EDI	Electronic Data Interchange

ERP	Enterprise Resource Planning
FAR	Federal Acquisition Regulations
FTP	File Transfer Protocol
GEPS	General Electric Power Systems
GOTS	Government Off The Shelf
GPEA	Government Paperwork Elimination Act
IPT	Integrated Product Team
IT	Information Technology
JFIMS	Joint Financial Management Improvement System
JFMIP	Joint Financial Management Improvement Program
OA	Operational Architecture
OMB	Office of Management and Budget
OASD/C3I	Office of the Assistant Secretary of Defense, Command, Control, Communications & Intelligence
OSD	Office of the Secretary of Defense
PCP	Purchase Card Program
PM	Program Manager
PMO	Program Management Office
RFP	Request for Proposal
SecDef	Secretary of Defense
SEO	Systems Engineering Office
SPS	Standard Procurement System
TOR	Terms of Reference
USA	United States Army
USAF	United States Air Force
USD/AT&L	Under Secretary of Defense for Acquisition, Technology and Logistics
USD/C	Under Secretary of Defense/Comptroller
WINS	Web Invoicing System
WAWF	Wide Area Work Flow

WAWF-RA	Wide Area Work Flow-Receipts and Acceptance